ASSESSMENT OF QUALITY OF HEALTHCARE FOR TUBERCULOSIS PATIENTS IN TEMA METROPOLIS.

BY

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A DISSERTATION SUBMITTED TO UNIVERSITY OF GHANA, LEGON IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF MASTER OF PUBLIC HEALTH DEGREE.

DECEMBER, 2018
DECLARATION

I, Priscilla Aboagye-Mensah hereby declare that apart from references to other people’s works which have been duly acknowledged, this proposal is as a result of my own independent work and has not been submitted for the award of any degree in any institution.

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DEDICATION

This project work is lovingly dedicated to my family who has been my constant source of inspiration, without their love and support this project would not have been possible.
ACKNOWLEDGEMENT

I would like to express my deepest appreciation to God almighty for given me knowledge and strength to go through with this project.

My special gratitude goes to my supervisor who guided me to achieve this goal.

I would also like to acknowledge with much appreciation the staff of Tema Metro Health Directorate and School of Public Health, University of Ghana for their immense contribution.

Special thanks to all Tuberculosis clients in Tema metro who took part in this project.

And to all those who helped in diverse ways to make this project a success,

I am forever grateful.
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ABSTRACT

The purpose of this study was to assess the quality of tuberculosis (TB) care rendered to TB patients within Tema Metropolis. The study examined three domains within which quality of care is assessed namely: structural factors, process factors and client satisfaction with services. Using a concurrent mixed method design, data was gathered through a survey among 113 TB clients and, by means of an interview among four healthcare professionals who provide care for TB patients. Purposive sampling techniques (maximum variation sampling technique and criterion sampling) were used in combination with convenience sampling technique to gather data from 113 respondents from a population of 170 TB patients and 4 health professionals directly involved in the care of TB clients. Findings from the study showed that structural quality of TB management was not encouraging (average mean score (2.75± 0.40) compared to process quality and outcome (client satisfaction) which had average mean scores of 3.6 ± 0.49 and 3.35 ± 0.87 respectively. Inadequate counselling rooms, lack of relaxed waiting area with comfortable chairs and inadequate staff were identified as the major challenges pertaining to structural quality of care. With regards to process quality, lack of privacy, poor supervision in taking medication, and inability of client to seek care beyond working hours were identified as the major shortcomings for process quality of TB case management. The study also revealed that although TB clients acknowledged improvement in their illness following intake of medications, they were dissatisfied with waiting time as well as reporting time to seek care. Based on these findings that emerged from the study, it is recommended that both non-governmental organizations and government institutions such as Ministry of Health and Ghana Health Service collaborate to provide adequate counselling rooms, comfortable waiting area to address these challenges in order to improve quality of TB care.
CHAPTER ONE

INTRODUCTION

1.1 Background

Tuberculosis (TB) is still a major global health problem in spite of cure being in existence for the past 70 years (Amo-Adjei, 2016). The disease remains a major cause of morbidity and mortality and constitutes a huge public health problem with about one-third of the world’s population affected by TB despite several years of implementing preventive and control measures against the disease (Osei, Akweongo, & Binka, 2015).

According to the World Health Organization (WHO) the African Region has the highest rates of TB cases and deaths per capita (WHO, 2013). In sub-Saharan Africa and other resource-constrained countries, the number of new TB cases reported is steadily increasing and 80% of TB cases and 78% of global TB deaths occur in these countries, primarily due to the combined effect of high prevalence of human immuno-deficiency virus (HIV), poor TB control efforts, social inequalities, drug resistance and inadequate access to TB care (Hamusse, Demissie, Teshome, Hassen, & Lindtjørn, 2017; Dye & William, 2010). Ghana is ranked 38th high burden TB country among 145 countries in the world and 19th in Africa (Amo-Adjei & Awusabo-Asare, 2013; Osei et al., 2015) and attempts to deal with TB dates back to the early 1900s.

The WHO formally launched the Directly Observed Treatment short course (DOTS) global public health emergency in 1994 as a standard strategy to control TB after declaring it as global public health emergency in 1993 (Hamusse, Demissie, Teshome, Hassen, & Lindtjørn, 2017; WHO, 2009). Since then, significant progress has been made in reversing the incidence of TB and it was possible to reduce its prevalence by 41% worldwide (WHO, 2014).
During the directly observed treatment short course (DOTS) era in the 1990s and early 2000s, high burden countries (HBCs) focused on achieving ‘coverage’, defined as the availability of free TB diagnostic and treatment services in all regions or districts of a country. While nearly all countries have managed to substantially improve geographic coverage, the ‘quality’ of services has received little attention. With TB incidence declining at a very low rate of 1.5% per year, the current approach to global TB control, in which the onus has been on expanding coverage of TB services, was to be reconsidered (WHO, 2016). Thus in May 2014, the World Health Assembly approved the End TB Strategy, which proposes the ambitious target of ending the global tuberculosis (TB) epidemic by 2035. The goal will be met when TB-related deaths and active TB incidence are reduced by 95% and 90%, respectively, compared with the 2015 values (Cazabon et al., 2017). In order to achieve these goals, there is the need to think beyond coverage and start focusing on the quality of care that is routinely provided to patients in High Burden Countries (HBCs), in both public and private sectors (Scott, & Jha, 2014; Kruk, Larson, & Twum-Danso, 2016).

1.2 Problem Statement

Tuberculosis remains an enormous and growing global health problem despite substantial progress in the development and implementation of strategies necessary for effective tuberculosis control since its emergence (Osei, Akweongo, & Binka, 2015; Cazabon et al., 2017). In Ghana, statistics from Ghana Health Service/Ministry of Health National Tuberculosis Annual Report has revealed that despite the fact that Ghana is not one of the high burden TB countries in Africa, TB is a major health challenge and together with HIV; accounting for about 7% of all deaths, the second after malaria (GHS/MOH, 2010).

Lack of access to high quality TB care contributes significantly to the high burden of TB especially in developing countries in sub-Saharan Africa. Evidence shows that poor TB care in developing countries usually results in harmful practices such as inappropriate medical
practices for TB diagnosis, treatment, and case management and these contribute to unnecessary suffering for patients, diagnostic delays, continuous spread of TB, high healthcare costs for patients and society, and development of MDR-TB (Gebrekidan, Tesfaye, Hambisa, & Deyessa, 2014). From the aforementioned pitfalls in rendering healthcare to Tb clients, one may argue that quality of TB care is very crucial to mitigate these challenges. In view of this, Gebrekidan et al., (2014) assert that healthcare systems in developed countries have inbuilt mechanisms and systems to assess quality of care given to TB patients. They further argue that such mechanisms are absent in developing countries in addition to scanty information on the quality of TB care provision.

Although many studies have explored TB in different control aspects, not much studies have been conducted on quality of TB care in Ghana. Research has shown that more than 70% of these studies in Ghana focused on the biomedical aspects of the disease (Amo-Adjei & Kumi-Kyereme, 2013). While Gandy and Zumla (2002) have criticized such approach to TB research where disproportionate emphasis is placed on biomedical paradigm, Lonnroth et al. (2009) contend that TB research should incorporate both biomedical and socio-cultural paradigms in order to achieve greater impacts on control measures.

Regardless of these different perspectives as shared by researchers, studies on quality of TB care in Ghana are limited and very little is known about the quality of TB care provided to patients. No known study has assessed quality of TB care in both private and public health facilities in the Tema Metropolis in spite of the increasing numbers of TB cases recorded over the years in Tema (DHIMS, 2016).
1.3 Research Questions

1. What existing structures are available for the treatment of TB within the Tema Metropolis?

2. What is the nature of process quality of care offered to TB patients receiving treatment within Tema Metropolis?

3. How satisfied are TB clients with the healthcare rendered to them within Tema Metropolis?

1.4 Objectives

1.4.1 General objective

The general objective of the study was to assess the quality of healthcare of TB patients in the Tema Metropolis.

1.4.2 Specific objectives

1. To assess the structural quality for TB case management in Tema metropolis

2. To assess the process quality for TB case management in Tema metropolis

3. To determine client satisfaction with quality of TB care in Tema metropolis.

1.5 Justification

Available evidence in Ghana shows the implementation of tuberculosis (TB) control activities efforts since the beginning of the 1900s. In spite of that, TB continues to be one of the common diseases in the country (Amo-Adjei & Awusabo-Asare, 2013). The quality of care provided to TB patients has not been given considerable attention. So assessing the quality of TB care service is important to determine whether standards are being practiced in providing care to TB patients and whether TB patients are satisfied with the care they receive, to identify potential areas for improvement and to strengthen and implement better TB care (Gebrekidan et al., 2014). This would facilitate the provision of a high quality of care to
patients with TB in a manner that satisfies both individual needs and the public health obligations linked to managing TB (Chakaya & Raviglione, 2014).

1.6 Conceptual framework

The diagram as shown in figure 1, illustrates a conceptual framework of this study. Three aspects of the quality of TB care will be evaluated (Donabedian, 1996): structure and processes of TB service delivery and patient satisfaction with care. Structure includes the organizational and managerial factors at health facilities that define the availability of resources, accessibility and convenience of TB care to patients (Campbell et al. 2000; Donabedian 1996). Process factors constitute ingredients of TB care such as clarity of communication, staff attitude and medicines delivered to patients by TB focal persons, while outcome factors are regarded as outcomes of structural and/or process factors such as treatment success and patient satisfaction.

The extent to which patients are satisfied with the care received is key in determining quality and research shows that patients satisfaction with care received is recognized as an important indicator of quality of care (Das et al., 2015).

Thus the quality of TB care will be measured from the perspective of the service provider which will comprise of the structure and processes and also from the perspective of the patient.
Figure 1: Conceptual framework for assessing quality of TB care (Adapted from Gebrekidan, Tesfaye, Hambisa, & Deyessa, 2014)
CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This section presents the theoretical framework of this research on assessing quality of TB care among TB patients. This theoretical framework is established on three main themes that are obtained from the three research questions used in this study; structural quality, process quality and client satisfaction with quality of TB case management. Furthermore, the discussions made in this chapter are underpinned by the Donabedian (1966) model of quality of health care.

2.1 Theoretical framework

The theoretical framework of the study is underpinned by the Donabedian model of quality care. This model is a conceptual model that provides a structure for examining and evaluating quality of care within the context of healthcare setting. Donabedian (1966) maintains that three main variables namely; structure, process and outcome interrelated in the framework of quality of care. Structure describes the physical setting within which health care is administered and encompasses infrastructure, staffing, and working logistics; simply described as tangible materials that facilitate delivery of healthcare services including policy guidelines and standards. Process describes the nature and manner in which healthcare is rendered to people who utilize such services. It usually entails the transactions that occur between the healthcare provider and the client. Finally, the third variable which is "outcome" refers to the overall outcome of services provided to the client and the entire population. According to Donabedian (1966), the existence of good structures facilitate process and this ultimately translates to positive outcomes such as improved health status, and client satisfaction.
This model was adopted for this current study because it is appropriately located in this philosophical stance, as it applies these three key variables (structure, process, and outcome) in achieving the set objective of assessing quality of care for TB patients. Besides, this model was specially designed to assess quality of care in the clinical setting (Andersen, Rice, & Kominski, 2007), thus making it possible to be used in this current study.

2.2. Concept of quality care

To assess quality of healthcare for TB patients, it is imperative that what constitute quality in terms of healthcare is clarified. The Institute of Medicine (1990) defines quality of care as the “degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge.” Buttell, Hendler, and Daley (2007) view quality in terms of healthcare as going beyond providing services in line with professional knowledge to achieve positive outcome. Buttell and colleagues have echoed that such services should as well meet expectations of healthcare users. The import of this argument suggest that offering healthcare services that fails to meet the desired expectations of the client may not be considered as quality healthcare from the client's frame of reference, although the healthcare provider may have achieved its principal aim of providing healthcare. For example, Berwick (2002) has emphasized that the patients’ experiences should be used as a yardstick in defining quality of care. In recognition of the vital role patients play in defining quality of care, both Barbosa (2015) and Mhlanga (2016) have argued that the concept "quality" as used in healthcare revolutionize as a result of client’s expectation.

From a different point of view, Harteloh (2003) assert that "quality is an optimal balance between possibilities realized and a framework of norms and values.” Based on this definition, Mitchell (2008) opined that "quality" is an abstract term and is constructed through interactions among key players who share similar opinion about standards and
components. In Ghana, the Ghana Health Service which is one of the major healthcare providers in the country defines quality as the “extent to which a product or service satisfies a group”.

The foregoing discussion indicate the fact that the term "quality care" may be perceived differently by various stakeholders in the health sector such as the patient, the service provider, and the facility management in this context. Thus, the term "quality" is difficult to define due to its abstractness and evolving nature in terms of what one perceives as quality (Barbosa, 2015; Mhlanga, 2016).

Healthcare providers have moved beyond just providing mere care to stressing on the need to ensure that services rendered is of optimum quality. According to WHO (2006), even in well-developed and highly resourced health settings, quality is held in high esteem due to challenges in achieving set goals and inconsistencies in standards of practice within and between health facilities. This is even more paramount in developing countries faced with the task of having to make optimum use of limited resources as well as ensuring the provision of care to a larger populace (WHO, 2006). In line with these challenges, quality of care has been a priority of both Ghana Health Services and the Ministry of Health (MOH) in Ghana, as evidenced by its inclusion in policies and program of work (MOH, 2007, 2014, 2016b; Ghana Health Service, 2004).

Studies have been carried out to measure or explain quality of patient care in the Ghanaian context (Ayimbillah, Atinga, Abekah-Nkrumah, et al., 2011; Dzomeku, 2011; Sika Avortri, Beke, &Abekah-Nkrumah, 2011; Essiam, 2013). Nevertheless, none of these studies focused entirely on quality of care pertaining to TB. Yet, research has revealed that differences exist in approach to TB management among nations, within same facilities, among clinicians practicing in the same geographical location as well as private and public healthcare facilities
(Uplekar, Juvekar, Morankar, Rangan, & Nunn, 1998), which may be a determinant factor in assessing quality of care.

In 2006, existing differences in the management of TB necessitated the formulation of a universal standard approach to the management of the disease and was referred to as the International Standard for Tuberculosis Care (Hopewell, Pai, Maher, Uplekar, & Raviglione, 2006); which is highly recommended for the management of TB (Chakaya & Raviglione, 2014). However, standard approach has been reviewed on two occasions to address unfolding challenges emanating from application of the module. These reviews were done in 2009 and 2014 respectively; all in an effort to deliver high quality services for TB care (Hopewell, Fair, & Uplekar, 2014).

Despite, the challenges in defining quality in the context of healthcare, the Donabedian (1966) model of quality care provides a useful way in measuring quality of care. This is measured using three dimensions namely structural quality, process quality and outcome quality, irrespective of how one may view quality which is often difficult to define.

2.3 Structural quality for tuberculosis case management

The discussion under this theme is derived from research question one which is stated as; what are the structures available for the treatment of TB within Tema Metropolis? The assumption of this research question is that; existences of certain structures promote quality TB care.

2.3.1 Organizational policies that promote quality TB care

Just as quality care is difficult to define, it may also be difficult to define the elements which combine to achieve quality care. In a working document designed to help managers and decision makers devise and put into operation interventions to improve quality of care in
health systems, it was highlighted that health systems should strive to improve upon six key areas (WHO, 2006). These key areas focused on making healthcare;

a. Effective by rendering healthcare that is adherent to an evidence base and inures to positive health outcomes for both the individual and the community which is anchored on the need for such services.

b. Efficient through the judicious use of resources

c. Accessible by delivering timely care within a reasonable geographical location and setting where skills and resources suit the medical need.

d. Acceptable and patient centered which takes into account client's preferences as well as the cultural background of the client.

e. Equitable irrespective of race, gender, or socio-economic status.

f. Safe by means of ensuring that client is free from any risk or harm after the provision of healthcare service.

Similarly, these factors discussed are critical to provision of quality care in the management of TB. To deliver effective services that lead to positive health outcome, the role of trained professionals can never be overlooked. This calls for the need for health facilities to engage the services of trained professionals in accomplishing such task. In fact, this should be a priority among healthcare providers as recent reports indicate that the quality of TB care in both the public and private healthcare facilities is far below required international standard especially in high burden countries (Cazabon et al., 2017). This should be a major concern for health workers especially when research has revealed that poor quality of TB service delivery is a contributing factor to non-compliance to treatment (Mesfin et al., 2009).

With regards to accessibility, research has shown that this is key to how patient rate their level of satisfaction in terms of TB care (Palha et al., 2012). However, it has been reported
that even though clients can easily access health centers closer to them, most of these health centers are incapable of providing TB care (Deye et al., 2013).

In Ethiopia, Dangisso, Datiko, and Lindtjørn (2015) conducted a study to assess physical accessibility to TB control facilities and the association of physical accessibility with TB case notification rates (CNRs) and treatment outcome. Data was gathered from the register of treated TB cases between a nine-year period (2003-2012) taking into consideration availability of basic materials for TB control and geographical locations of health facilities. Results from the study showed that not only did accessibility to treatment facilities improve, but also yielded to a 36% increase in health coverage. Specifically, a multivariate linear regression analysis showed that as distance from TB diagnostic facilities (β=−0.25, p<0.001) and altitude (β=−0.31, p<0.001) increased, the CNRs of TB decreased. whereas a higher population density was associated with increased TB CNRs. In the same way, it was established that distance to TB control facilities (β=−0.27, p<0.001) and altitude (β=−0.30, p<0.001) were inversely associated with treatment success (proportion of treatment completed or cured cases). In simple terms, easy access to TB treatment centers facilitate positive treatment outcome. Based on these findings, Dangisso and his colleagues concluded that CNRs were higher in areas which could easily be accessed and at the same time offered better diagnostic services.

Another worth mentioning factor that is critical to quality of care relates to clients’ preferences and cultural background. This takes into account planning TB care in such a way that it is tailored to meet the needs of the client in his or her socio-cultural context. Accordingly, the World Health Organization (2014) has stressed on the need to adjust strategies pertaining to TB programmes so as to address special circumstances that are in line with what is acceptable within the local setting. Such flexibility lends itself to a more
individualized and patient centered approach to TB care (Udwadia & Pinto, 2007; Metcalfe, O'Donnell, & Bangsberg, 2015).

Additionally, equity of healthcare irrespective of race, gender or socio-economic status is a right and not a privilege. This is clearly articulated in the constitution of the World Health Organisation (1946) which states that “the enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, economic or social condition”. This quote exposes the disregard and abuse of human right in terms of access to TB care; as it has been reported that such services are not readily available at health centers easily within the reach of TB patients (Deye et al., 2013).

Furthermore, it has been argued that although health service providers play a pivotal role in providing quality care, the role of service users and communities cannot be overlooked. Thus, both service users and the communities are regarded as co-producers of health due to their essential roles and responsibilities in identifying their personal needs, preferences, and managing their health with assistance from healthcare providers (WHO, 2006). This therefore suggest that "quality care" may be enhanced if there exist an atmosphere that facilitates effective collaboration between these three parties; the service provider, service user and the communities. For instance, without adequate support from the community and willingness of client to receive treatment, the fight against TB stands to suffer and may be an illusion despite availability of free medication.

2.3.2 Resource related factors that enhance quality TB care

Beyond these factors that have been discussed extensively, it is worthy to note that there are other significant factors that contribute enormously to the provision of quality care which can be classified as structural factors. These are;
a. Availability and adequacy of staff: Undeniably, adequate human resource is not only critical to the control of TB but significant in determining quality of care. Nevertheless, this continues to be a challenge that has encircled developing countries including Ghana where diseases such as TB among other disease cause high mortality and morbidity (Drager, Gedik, & Dal Poz, 2006; Vitoria et al., 2009; Girma, Mariam, & Deribe, 2010). Health care providers for TB patients play a major role in the control of resources and consume the bulk of running cost. Highlighting this concern and how lack of trained personnel impedes the fight against TB, the WHO Global plan to stop TB 2006-2015 acknowledged that staff constraints in terms of its adequacy, quality and workforce distribution were the major human resource challenge confronting the control of TB (WHO, 2010). Yet, in light of this unfortunate circumstance, availability of competent and skilled human resource is a prerequisite and driver to the provision of quality health care (Ghana Health Service, 2004). This is very critical to quality of care as even with strict adherence to therapy, clients may develop multi-drug resistance TB when treatment is wrongly delivered (Farmer et al., 1998).

b. Training: Training of health workers is an important strategy for improving health workers' productivity. Recognizing the essence of training, the Ghana Health Service has developed a training manual that equip healthcare workers with the essential skills and knowledge to plan and implement quality assurance programs in health facilities. Furthermore, they have stated that, health care workers should relentlessly update their knowledge through in-service training workshop and reading of books (Ghana Health Service [GHS], 2004). Consistent with this declaration, WHO (2012) have emphasized that, provision of healthcare services should be informed by current development in technology and evidence-based medicine; as this is crucial for ensuring quality care.
Nevertheless, it has been established that providing training and technical support in TB endemic region is capital intensive and projected to be $US 250 million. According to the Stop TB Partnership, this may have negative repercussions on the frequency at which training programs are organized for frontline staff who are tasked with the responsibility of managing TB; in that they may be deprived of access to current information in management of TB. Thus, the cost implication may account for lack of training among some health personnel (Ibrahim et al., 2014) and the variations in duration of TB training which has been identified as contributing to poor program performance in relation to TB (Figueroa-Munoz et al., 2005; Figueroa-Munoz et al., 2005). This therefore suggests that, with adequate training, program performance of TB may improve and consequently improve quality of care.

A study was conducted in Ghana to identify the essence of laboratory training in the diagnosis of TB (Addo et al., 2010). In the study, 80 personnel comprising of 10 regional TB coordinators and 70 laboratory personnel were trained. Those trained organized trainings for other selected personnel within their district, thus increasing the number of staff who had acquired training to aid their professional practice. This approach contributed immensely to case detection; rising from 10,745 in the year 2000 to 11,827 in 2004 and 14,022 in 2008. Based on this findings, they concluded that training and retraining of laboratory personnel contribute to efficient and effective TB control program. Corroborating this research findings, WHO (2015) has categorically stated that, all health workers should be familiar with recent information on TB at least once in a year.

c) Availability and adequacy of drugs, supplies and logistics: It is worthy to note that essential drugs and other supplies are essential ingredients that play an important role in inputs needed for quality of TB care. In a study to assess the quality of TB care from the patients perspective, it was identified among other factors that lack of drugs negatively affected patient compliance to treatment (Nezenega, Gacho, & Tafere, 2013), although
identified as input that enhance the provision of quality care (Donabedian, 1966). For instance, it has been argued that unfair distribution of inputs and logistics can lead to poor quality of TB care; reducing quality of service to about 79% or 76% (Asemahagn, 2014).

In terms of layout of physical structure for providing care to TB patients, a study done among private health facilities in the capital town of Ethiopia showed that dedicated centers for TB care had good infrastructural set up such as good lighting, ventilation, water supply, chair, table, and waiting space. Aside these adequate provisions, the facilities operated from Mondays to Fridays to provide DOT services for TB clients (Gebrekidan et al., 2014). This shows that DOT services was unavailable during weekends, thus likely to impair the smooth progress of DOT treatment which is to be on daily basis (WHO, 2009).

2.4 Process quality of TB Care

The issues raised in this discussion pertains to research question two, which is stated as; what is the process quality of care for TB case management within the Tema Metropolis? The assumption emanating from this research question is that; process quality of TB care is an element and contributing factor to quality of care in totality. Donabedian (2003) has argued that the measurement of process is almost equivalent to the measurement of quality of care for the reason being that process entails all acts of healthcare delivery.

2.4.1 Diagnostic procedures in TB care

A diagnosis of TB is a pre-requisite and the first step to inform the healthcare provider to initiate TB treatment for the client diagnosed with the condition. Taking into consideration the devastating outcome of the disease if undetected early, it should be a priority for both the healthcare provider and the patient. Late diagnosis of TB has dire consequences on the entire community; it can lead to the spread of the disease, result in poor health outcome as well as economic hardship and distress among families (World Health Organization, 2016). As such, prompt diagnosis is key to the fight against TB in terms of treating the patient and at the same
time curtailing the spread of TB which is recognized as a public health intervention (WHO, 2011).

Several tests can be conducted to diagnose TB. In Africa and other developing countries including Ghana, the most common approach used in diagnosing TB is the sputum smear microscopy (SSM), the gene Xpert and evaluations from chest X-rays. These diagnostic procedures are based on the International Standards for Tuberculosis Care (2014) which has strongly emphasized that in diagnosing TB, clinicians should adhere to the following protocols;

a. To ensure early diagnosis, providers must be aware of individual and group risk factors for tuberculosis and perform prompt clinical evaluations and appropriate diagnostic testing for persons with symptoms and findings consistent with tuberculosis.

b. All patients, including children, with unexplained cough lasting two or more weeks or with unexplained findings suggestive of tuberculosis on chest radiographs should be evaluated for tuberculosis.

c. All patients, including children, who are suspected of having pulmonary tuberculosis and are capable of producing sputum should have at least two sputum specimens submitted for smear microscopy or a single sputum specimen for Xpert MTB/RIF testing in a quality-assured laboratory. Patients at risk for drug resistance, who have HIV risks, or who are seriously ill, should have Xpert MTB/RIF performed as the initial diagnostic test. Blood-based serologic tests and interferon-gamma release assays should not be used for diagnosis of active tuberculosis.

d. For all patients, including children, suspected of having extra pulmonary tuberculosis, appropriate specimens from the suspected sites of involvement should be obtained for microbiological and histological examination. An Xpert MTB/RIF test is recommended as
the preferred initial microbiological test for suspected tuberculous meningitis because of the need for a rapid diagnosis.

e. In patients suspected of having pulmonary tuberculosis whose sputum smears are negative, Xpert MTB/RIF and/or sputum cultures should be performed. Among smear- and Xpert MTB/RIF negative persons with clinical evidence strongly suggestive of tuberculosis, anti-tuberculosis treatment should be initiated after collection of specimens for culture examination.

f. For all children suspected of having intrathoracic (i.e., pulmonary, pleural, and mediastinal or hilar lymph node) tuberculosis, bacteriological confirmation should be sought through examination of respiratory secretions (expectorated sputum, induced sputum, gastric lavage) for smear microscopy, an Xpert MTB/RIF test, and/or culture.

The above protocol used in the diagnosis of TB highlights the need for a well-established laboratory that is not only operational, but is resourced with highly skilled personnel to offer such services. In accordance with this, WHO (2006) developed a four-year strategic plan with the aim of strengthening laboratory practice by way of ensuring that laboratory networks applied diagnostic procedures as outlined in the Global Plan to Stop TB, 2006-2105. For instance, it has been recommended that the use of conventional fluorescence microscopy in aiding the diagnoses of TB should be phased out, and instead replaced with light emission diode (LED) microscope in both high and low workload laboratories (WHO, 2009).

Continuous quality laboratory services are considered as one of the major pillars critical to the diagnosis and follow-up treatment in the control of TB (Federal Ministry of Health [FMOH], 2008). Despite the need for such services in the diagnosing of TB, literature has revealed that a myriad of problems has encircled this fraternity. This include but not limited to; misdiagnosis of TB (Asemahagn, 2014; Desalegn et al., 2018), inadequate laboratories for testing drug susceptibility (Zumla et al., 2012), poor commitment to training, supervision and
allocation of resources (Asemahagn, 2014), lack of reagents and equipment (Sinishaw, Gebregergs, & Shiferaw, 2015) and failure to adhere to standard procedures in diagnosing TB (Moro, Nascetti, Morsillo, & Morandi, 2010).

Desalegn et al., (2018) carried out a study to review misdiagnosis of pulmonary TB and associated factors in peripheral laboratories. In the course of the study period, 1033 (10.5%) sputum smear positive and 8783 (89.5%) smear negative slides results obtained from peripheral laboratories were again analyzed by the central referral laboratories (CRLs) as the reference standard reading. Results from the study showed that; 25 out of the 1033 positive slides re-examined were false positive. Again, 35 slides were also false negative out of the total 8783 smear negative slides obtained initially. Furthermore, the study uncovered that some of the laboratories lacked essential resources such as lens cleaning tissue papers, frosted slides, and reagents; all of which are critical in aiding the diagnosis of TB. Similarly, Zumla et al., (2012) have disclosed that testing for drug susceptibility in TB is a major challenge among most TB endemic countries. This in their view, has led to a countless of problems including missed diagnosis, inability to implement routine surveillance, and difficulty in estimating global statistics of drug-resistant tuberculosis cases.

2.4.2 Treatment protocol for management of tuberculosis

Tuberculosis is caused by a group of closely related bacterial species termed the Mycobacterium tuberculosis complex (MTBC). The disease was recognized in ancient and historical times and is still a major global cause of death and disease today (Donoghue, 2009). It is one of the earliest infectious diseases of man (Al-Humadi, Al-Saigh, & Al-Humadi, 2017) and is reported to have emerged over 70,000 years ago and has co-evolved with humans till date (Rao, Durvasula, & Diseases, 2013).
Nevertheless, interventions have been put in place to halt the spread of the disease and at the same time provide treatment to those affected once they report to the health facility with symptoms that may indicate the onset of the disease. In Ghana, the Standard Treatment Guideline (2004) which serves as a protocol for the diagnosis and treatment of diseases including TB has outlined three main types of treatment regime. These are;

a) **short course (DOT):** This treatment course last for a duration of six months and initiated in newly identified smear-positive pulmonary tuberculosis patients as well as patients whose sputum smear are negative, but critically ill (Ministry of Health Standard Treatment Guideline [MOH, STG] 2004). Again, the MOHSTG has cautioned against the use of solely Rifampicin in the treatment of TB in this phase, but rather recommends a combination of Rifampicin and Isoniazid to prevent drug resistance to Rifampicin.

Globally, the Direct Observation Treatment Short-course (DOTS) which was officially launched by the World Health Organization in 1994 has been recognized as the standard strategy to treat tuberculosis (World Health Organization [WHO], 2009). To date, Directly Observed Therapy (DOT) is still recognized by WHO as a key component of TB programmes due to its efficacy in curing TB and preventing the emergence of drug resistance (Chien, 2013; Hirpa, 2013), despite its first use in the early 1960s (Bayer 1995).

DOT is a component of a wider WHO strategy called 'Directly Observed Therapy Short course’ (DOTS). It aims at providing comprehensive care to TB patients through a collaborative approach by amassing political commitment and improving health systems such as; standard TB laboratory services, free TB medications for all TB patients as well as accurate documentation and monitoring of TB diagnosis and treatment outcomes (WHO, 2002).
Besides, DOT is geared toward improving adherence by actively monitoring and recording the ingestion of each and every drug dose by an 'observer' acceptable to the patient and health system (Hopewell, 2006). Clients under this therapy are required to take TB medications on a regular basis for six consecutive months. More importantly, from the first day through to the first two months that treatment is initiated, it is imperative that client is directly observed swallowing the medication (Ahmed, Skarbek, Codlin, Khan, & Mohaupt, 2012).

Application of DOT has positive outcomes on the client, the community and helps the healthcare provider in discharging his or her roles professionally. For the TB client, it creates the platform for client to seek clarification and ask questions, minimizes reactivation of the disease, risk for developing drug resistant strains of TB, and ultimately mortality associated with TB. For the community, it curtails the spread of the disease which is highly infectious. In relation to how it helps the healthcare provider in discharging duties professionally, it offers them the opportunity to identify potential problems likely to impede successful treatment, side-effects associated with the medication as well as therapeutic effect of the drugs (TB DOT Subgroup of HSE TB Control Group, 2012).

b) Standard course: This treatment course comes in play when there is an indication of a smear negative pulmonary TB and extra-pulmonary TB. It starts with an intensive 2 months’ treatment combination of Streptomycin, Isoniazid and Thiacetazone. After two months of treatment, Streptomycin is withdrawn as part of the treatment; leaving the client on Isoniazid and Thiacetazone (MOHSTG, 2004).

c) Retreatment Regimen: This phase of treatment only becomes necessary when there is an incidence of relapse or treatment failure. In such instances, client is placed on five medications; Rifampicin, Isoniazid, Pyrazinamide and Ethambutol daily for at least 3 months, supplemented with Streptomycin for the first two months in addition to periodic examination.
of client’s sputum during the 2nd, 5th and 8th month of treatment (MOHSTG, 2004). Besides, it requires admission if possible and strict supervision to ensure that client takes medication consistently as prescribed. Coupled together, this makes treatment at this phase expensive.

Marks et al., (2014) carried out a study to describe factors associated with multidrug-resistant (MDR), including extensively-drug-resistant (XDR), tuberculosis (TB) in the United States. In the study, data of both MDR patients and extensively drug resistant (XDR) TB patients within three states was obtained from the records of Centres for Disease Control and Prevention between the period 2005-2007. From the study, initial M. tuberculosis isolates obtained within the first month of treatment initiation revealed isoniazid or rifampin resistance among 122 (94%) of the 130 MDR TB patients and XDR among 4 (80%) of the 5 XDR TB patients.

In terms of treatment, the average for treating TB was $134,000 for MDR patient and $430,000 per XDR TB patient. In comparison with non-MDR patient, it was estimated at $17,000. This shows that TB treatment at this phase is cost intensive. Nevertheless, treatment success was encouraging as of 112 eligible patients, including all XDR TB patients, sputum culture converted to negative for 97% of them following intensive treatments (Marks et al., 2014).

2.4.3 Interpersonal relationship related factors that improve process quality for TB care

Even in the event that resources are adequate enough to provide quality care, achievement of quality care stands to suffer if there are loop holes in the way and manner services are delivered by health professionals. It is important to note that interpersonal relationship in terms of communication, attitude of staff, respect for client, and privacy and confidentiality in attending to client are essential ingredients in the provision of quality TB care.
a) **Communication:** The role of effective communication as an ingredient to the delivery of quality healthcare cannot be underestimated. Effective communication is a driver to the success or failure of treatment in the management of TB (Hargreaves et al., 2011). In fact, it acts as a pillar that facilitates a sense of co-operation between the client and the healthcare provider (Koech & Yamboga, 2017). For communication to be effective, it should be comprehensible as a two-way process with ‘participation’ and ‘dialogue’ as key elements (Deane & Parks, 2006).

Effective communication is very crucial in the management of TB. It has been reported that lack of understanding between the healthcare provider and the client inadvertently impede treatment success (Mishra, Hansen, Sabroe, & Kafle, 2006; Hargreaves et al., 2011). A typical example of this phenomenon was highlighted in a report (The Kenya TB Care II report, 2013) that exposed how gaps in communication lack of information negatively affected the health seeking behaviour of TB patients in Kenya. The report revealed that, information patients received on TB was scanty, and solely limited to the signs and symptoms as well as mode of spreading the disease. Issues pertaining to screening of close contacts, counselling of patients on HIV and TB treatment were not well addressed by the healthcare provider in the course of interaction. This gap falls short of the internationally accepted guideline provided by ISTC (2014) in the diagnoses and treatment of TB which has been discussed early on.

b) **Staff attitude:** Another factor that may impede or promote compliance to TB treatment relates to the attitude of staff who deliver services to patients diagnosed with TB. According to International Standards for Tuberculosis Care (2006), quality of care accorded to patients and especially to TB patients determines the health-seeking behaviour of these patients. This phenomenon is very evident in the works of Ibrahim et al., (2014). In their study, the health professionals themselves who formed the respondents for the study acknowledged that,
negative attitude of health professionals was one of the factors that hindered TB patients’ compliance to treatment.

In Ghana, Dodor and Kelly (2010) conducted a study to explore ways in which stigma in relation to TB is manifested by healthcare professionals within the healthcare system. Data was gathered from the healthcare professionals involved in the care of TB patients by means of interviews and focus group discussions. Results from the study revealed poor and negative attitude not only to TB patients, but also trickled down to healthcare workers working within TB units. Ways in which these unpleasant attitudes were manifested ranged from avoiding TB patients to maltreating them, blaming them for intentionally infecting others and refusal of health personnel to work at TB units or be trained as TB care providers. Adding to their woes, health care managers were less committed to provision of vital resources to aid the smooth progress of work within units dedicated to TB care (Dodor & Kelly, 2010). However, these challenges are critical to the way a person may perceive quality of care as indicated in the Donadedians model of quality care (1983).

Thus, it is not surprising that concerted efforts have been made to provide holistic service tailored to meet the needs of clients who seek the services of healthcare professionals (Ghana Health Service [GHS], 2006), especially in the wake of public outcry regarding unprofessional attitude of some health professionals.

c) Privacy and confidentiality: This is a matter of concern for not only TB patients (Atif, Javaid, Farooqui, & Sarwar, 2016), but for all patients irrespective of their medical condition. In view of this, the Centre for Disease Control and Prevention (CDC, 2014) has emphasized that healthcare workers tasked with the responsibility of caring for TB patients should be guided by this ethical principle of patient right to privacy and confidentiality.
2.5 Patient satisfaction with quality of TB care

Every patient who seeks healthcare at the hospital will desire to be given prompt professional care, spend lesser time at the hospital, and ultimately be relieved from his or her signs and symptoms. The success of these expectations may be significant in determining patients’ satisfaction with services they receive at healthcare facilities. It has been reported that a mix of factors such as patient and health system related factors combine to influence client satisfaction with TB services at healthcare facilities (Onyeonoro et al., 2015).

Sitzia and Wood (1997) define satisfaction as the fulfillment of expectations, needs, or desires. In line with these expectations, Fenny et al. (2014) has argued that patient satisfaction is regarded as playing a dual role; that is both an outcome and at the same time an indicator of care quality, and this offers a simple first step into understanding the quality of care as perceived by the patient.

According to Naidu (2009), client satisfaction in the context of healthcare is a multi-dimensional construct affected by a number of variables. This shows that client's satisfaction with healthcare services may vary from person to person based on his or her interpretation of what constitute "satisfaction". In spite of these perspectives that makes it difficult to clearly define what constitutes patient's satisfaction, literature has shown that waiting time in accessing healthcare (Shirley & Sanders, 2013; Bleustein et al., 2014; Nottingham, Johnson, & Russell, 2018), interaction between healthcare provider and client (Shirley & Sanders, 2013; Nezenega et al., 2013), working hours (Girma et al., 2010) and patient's wellbeing (Faezipour & Ferreira, 2013) are critical components in evaluating patients satisfaction in terms of services rendered to them at health facilities.

Nezenega et al., (2013) carried out a study with the aim of determining clients satisfaction with treatment services for TB. Results from the study showed that 90% of the patients were
satisfied with TB treatment services rendered to them. In addition, perceived professional care, consultation as well as relational empathy were independent predictors of overall patient satisfaction (P < 0.05).

Another worth discussing factor critical to client satisfaction of care pertains to time spent at the hospital in accessing healthcare. The waiting time patient spend at the hospital is one of the significant factors that determine how patients rate quality of care (Girma, H/Mariam, & Deribe, 2010), compliance to treatment (Nezenega et al., 2013) and the overall satisfaction with services rendered to them (Girma et al., 2010). A number of studies have discussed this issue extensively and concluded that there is a significant relationship between clients waiting time and satisfaction with services (Girma et al., 2010; Neganeza et al., 2013).

For instance, research has shown that there is an inverse relationship between waiting time and patient satisfaction with services they receive at the healthcare facility (Bleustein et al., 2014). This simply suggests that, patients are more satisfied when they spend less time at the hospital in seeking healthcare and vice-versa. Waiting time in accessing healthcare due to administrative procedures is a critical factor for predicting patient’s satisfaction with the quality of healthcare delivery (Atinga, Abekah Nkrumah, and Domfeh, 2011) and adherence to TB treatment (Nezenega et al., 2013).

A study (Nottingham et al., 2018) was done to determine the effect of waiting time on patient perception of quality care by analyzing data gathered from rural healthcare facilities within a three year period. In measuring patient satisfaction, the overall quality of care; likelihood of recommending the care provider; and likelihood of recommending the practice were the main variables used to ascertain their satisfaction of healthcare rendered to them. However, in as much as waiting time determined clients’ satisfaction with care, there were differences in terms how both males and females perceived their satisfaction with care. Whereas male
patients tended to be satisfied with services if only they were frequently updated on reasons for delays, this was not same for female clients. For female clients, although they were tolerant, update on reasons for delay did not in any way influence their satisfaction with service. Furthermore, they study revealed that patient's satisfaction with services at the health facility determines their likelihood to recommend such a facility to another client.

However, in a study (Girma et al., 2010) conducted in Ethiopia to determine quality of TB care revealed that, more than half of the respondents were dissatisfied with the appropriateness and adequacy of working hours (63.6%) and waiting time (70.3%). Statistically, significant correlation was observed between process quality and output quality (clients' satisfaction) parameters (p < 0.001); all of which are critical to quality of care as indicated in the model of care by Donabedian (1966). Similarly, another study revealed that patients are generally not satisfied with quality of care they receive at health facilities (Khamis & Njau, 2014).

2.6 Summary of literature review

Conclusively, literature reviewed showed that, most of the studies pertaining to quality of TB care were carried out in other countries with limited studies in Ghana. In addition, most of these known studies reviewed used either a quantitative or qualitative research approach, thus establishing why this study was carried out using a mixed method approach to provide a comprehensive understanding about the phenomenon under investigation.

Additionally, most of the studies reviewed relied on the perspective of solely the service users or service providers regarding quality of TB care. However, this current study seeks to blend the perspectives of both service users and service providers.
CHAPTER THREE

METHODOLOGY

3.0 Introduction
This chapter presents the methodology for the study. The areas covered include research design, research setting, population, sample size, sampling technique, instrumentation, validity and reliability. Other areas of concern in this chapter are; procedure for data collection and data analysis.

3.1 Research design
A cross-sectional study was adopted using concurrent mixed method design. Thus, both qualitative data and quantitative data were collected at the same time, independently analyzed and subsequently the findings compared to either confirm or disconfirm each other (Creswell, 2014). Besides, this research design was used with the intention to triangulate and corroborate statistical results from the quantitative data with qualitative findings and at the same time give equal priority to both data; which is required when using this research design (Creswell, 2014). Both Bryman (2006) and, Creswell and Plano Clark (2011) acknowledge that this research design enhance credibility of the findings. Also, it allowed me space to select the methods, techniques, and procedures of research that helped in providing answers to the research questions and achieving the purpose for which the study was conducted (see Creswell, 2013).

3.1.1 Philosophical underpinning of research approach and design
The mixed method approach is underpinned by the pragmatic philosophical assumption about social reality. The pragmatist is not confined to a single system of philosophy and reality, hence provides a platform for researchers to draw from both quantitative and qualitative assumptions (Creswell, 2013).
Additionally, Creswell (2014) has stated that pragmatists do not view the world as an absolute unity; similar to mixed method researchers relying on many approaches for collecting and analyzing data rather than subscribing to only one way. He goes further to say that pragmatism brings to the forefront multiple methods, different worldviews, different assumptions as well as different forms of data collection and analysis. The current study is appropriately located in this philosophical paradigm as it applies different approaches in data gathering and analysis to achieve the set purpose and objectives of the study.

3.2 Study area

The study was conducted in the 5 health facilities providing TB care for patients within the Tema Metropolitan Area. Tema metropolis is one of the 16 districts in Greater Accra Region. It has a population of 345,622. There are 5 Public health facilities, 58 private health facilities and 4 quasi government facilities. Only 5 facilities have TB clinics that provide daily TB services to clients. The new Tema Metropolis is bounded in the North-East by Ashaiman Municipality, in the North-West by Adentan Municipality, on the West by Ledzokuku-Krowor Municipality, in the South by the Gulf of Guinea and in the East by the Kpone-Katamanso District.

Generally, the metropolis stretches between latitude 5037’N in the southern coastline and latitude 5041’N at its northern most limits. The Tema Metropolis has a population of about 403,934 (2010 Population and Housing Census), making it the second largest populated district in the Greater Accra Region. The Greenwich Meridian (i.e. Longitude 0°) passes through the Metropolis, which meets the equator or latitude 0° in the Ghanaian waters of the Gulf of Guinea.
3.3 Variables

The variables of the study comprise the dependent and independent variables as shown in the Table 3.1

Structure factors

This section measured the structural functioning of the facility in terms of availability and adequacy of staff, availability and adequacy of medicine, supplies and logistics, availability and adequacy of infrastructure, and availability and adequacy of training/supervision. It was measured with a set of five Likert scale questions scored 1(Strongly disagree) to 5(Strongly agree) designed by the researcher. The questions were positively rated, hence a higher score implies better structural factors and vice versa.

Process factors

This section measured clarity of communication, staff attitude, privacy and confidentiality, respect for client and skills to follow standard procedures. It was measured with a 15-item Likert scale scored 1(Strongly disagree) to 5(Strongly agree) designed by the researcher. Questions were positively rated, hence higher score implies better process factors and vice versa.

Patient satisfaction

This was measured with a set of five Likert scale questions scored 1(Strongly disagree) to 5(Strongly agree) designed by the researcher. The questions were rated in a positive direction, therefore higher score means better satisfaction level and vice versa. An average score of the responses to the five questions was generated and used to measure the level of satisfaction for each patient, hence the maximum satisfaction score a patient could get was 5 and a minimum of 1.
Table 3.1: Variables of the study

<table>
<thead>
<tr>
<th>Variables</th>
<th>Operational definition</th>
<th>Scale of measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Quality of health care</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient satisfaction</td>
<td>How patients rate the health care given them</td>
<td>Continuous</td>
</tr>
<tr>
<td>Structure factors</td>
<td>Availability and adequacy of resources for the provision of quality care</td>
<td>Continuous</td>
</tr>
<tr>
<td>Process factors</td>
<td>Skills to provide quality care to patients</td>
<td>Continuous</td>
</tr>
<tr>
<td><strong>Socio-demographic factors</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td>Male, female</td>
<td>Nominal</td>
</tr>
<tr>
<td>Age</td>
<td>Age at as last birthday</td>
<td>Continuous</td>
</tr>
<tr>
<td>Educational level</td>
<td>No formal education, Primary level, Secondary level, Tertiary</td>
<td>Ordinal</td>
</tr>
<tr>
<td>Marital status</td>
<td>Married, Unmarried</td>
<td>Nominal</td>
</tr>
<tr>
<td>Occupation</td>
<td>Formal, informal, unemployed</td>
<td>Nominal</td>
</tr>
</tbody>
</table>

### 3.4 Study population

The study population included TB patients (primary population) accessing care at the five health facilities providing TB care services within Tema Metropolis and healthcare workers (secondary population) one from each facility providing services to these patients. These facilities are Tema General Hospital, Tema Polyclinic, Manhean Health Centre, Narh- Bita Hospital and Port Medical Centre.
3.4.1 Inclusion criteria

1. All TB patients accessing TB care at the five health care facilities providing TB care in Tema metropolis and were willing to participate in the study were included.

2. Healthcare workers providing direct care to TB patients in the Tema Metropolis.

3.4.2 Exclusion criteria

1. TB patients who visited the health facilities for the first time were excluded as they may not have adequate prior experience and health records with the health facility to provide valid information on quality of care given to them.

2. Patients referred from another facility were not included in the study as they may also not have adequate prior experience with the health facility to provide valid information on quality of care given to them.

3.5 Sample size

In this study, the sample size was calculated using the Yamane (1967) simplified formula for calculation of sample sizes.

\[ n = \frac{N}{1 + N(e)^2} \]

Where \( n \) is the sample size,

\( N \) is the population size, and

\( e \) is the alpha level or significance level

With an average TB patient population of 170 (\( N= \)) currently receiving TB care within the district and an adopted alpha level (\( e \)) of 0.05, the sample size was calculated as follows;

\[ n = \frac{170}{1 + 110 (0.05)^2} \]

\[ n = \frac{170}{1 + 110 (0.05)^2} \]
Therefore, a sample size of 126 was estimated out of the target population of TB patients receiving TB care within the Tema Metropolis. However, a sample size of 113 patients were involved following a return rate of 89.7\% for questionnaire that was administered to gather quantitative data.

### 3.6 Sampling technique

For the purpose of confirming and gaining in-depth understanding about the quality of TB care from different angles, a multilevel sampling technique that employed a combination of criterion, convenience, and maximum variation sampling techniques were used by the researcher to gather both quantitative and qualitative data from a sample size of 117 respondents. Onwuegbuzie and Leech (as cited in Cohen, Manion, & Morrison, 2011) have affirmed that multilevel sampling designs enables comparisons to be made between two or more groups drawn from different level of the study.

#### 3.6.1 Sampling technique for quantitative data

Specifically, a combination of criterion sampling (a type of purposive sampling technique) and convenience sampling techniques were used by the researcher to gather quantitative data. This was done in two phases:

The researcher employed criterion sampling technique (a type of purposive sampling) in the first phase. Criterion sampling involves choosing cases that meet some outlined criterion of importance (Patton, 2001). This sampling technique was employed because the researcher believed that TB clients who met the criteria outlined below were in a better position to provide relevant answers to the research questions in anticipation of their understanding about the issue under investigation. The criteria for selection was:
1. TB clients who had been on treatment for at least three months or more as they have been through both intensive and continuous phases.

The researcher carried out this exercise with the assistance of the nurses at the TB units of the hospital. These nurses helped the researcher in selecting the respondents needed using the above criteria for the survey, because these nurses were directly involved in caring for TB patients.

Subsequently, convenience sampling was used to select those who had shown up for TB treatment, met the set down criteria and were prepared to partake in the study using the TB register as a cross-check to avoid double administration of questionnaire to the same participant. The idea is that the occasion had presented the opportunity to gather data with a convenience sampling procedure, which would be too good an opportunity to miss (Cohen, Manion, & Morrison, 2011). Cohen and colleagues explain that it involves choosing the nearest individuals and continue the process until the required sample size has been obtained or those who happen to be available and accessible at the time. In all, 113 respondents were sampled for the survey by the researcher during the period that data was collected, as these numbers met the set down criteria as explained earlier on and were accessible as at the time of data collection.

3.6.2 Sampling technique for qualitative data

In sampling respondents for the purpose of gathering qualitative data, two sampling techniques were applied to arrive at five participants. These were maximum variation sampling technique (a type of purposive sampling technique) and convenience sampling technique.
Maximum variation sampling technique was purposively used to select two different categories of health professionals (TB co-ordinators who happened to be nurses and a biomedical scientist). This was done with the intent of finding out how both professionals view the issue and also to obtain a range of perspectives relating to the phenomenon under investigation. Also, the researcher believed this sampling technique would also enrich the data gathered. According to Onwuegbuzie and Collins (2007), choosing different groups of individuals maximizes the range of perspectives investigated in a study. Hence, this group of health professionals were chosen coupled together with the believe that they are "information rich" (Patton, 2015).

Ball (cited in Cohen et al., 2011) has also argued that purposive sampling is used to access "knowledgeable people"; that is those who have in-depth knowledge about a particular issue by virtue of the professional role, power, and access to network, expertise or experience. Purposive sampling afforded the researcher the opportunity to make comparisons and focus on specific or unique issues in order to generate theory from the gradual accumulation of data from different sources (Teddle& Yu, 2007).

Furthermore, it has been recommended that in selecting respondents when designing any purposive sampling strategy, informants should be: (a) knowledgeable about the cultural arena, situation or experience being studied; (b) willing to talk; and (c) represent the range of points of view (Rubin and Rubin cited in Check &Schutt, 2012). Besides, they advocate that the researcher continues to select interviewees until two issues are addressed. These are: (a) completeness (what you hear provides an overall sense of the meaning of a concept, theme, or process); (b) saturation (you gain confidence that you are learning little that is new from subsequent interviews. The researcher adhered to these guidelines to ensure that the
purposive sample sufficiently represented the issues studied (Rubin and Rubin cited in Check &Schutt, 2012). The point of saturation was reached after interviewing the fourth participant.

Convenience sampling technique was used to select the healthcare professionals following maximum variation sampling technique that made it possible for the biomedical scientists to be part of the sample.

3.7 Data collection tools and techniques

Questionnaires were used to gather quantitative data whereas semi-structured interview guide was the appropriate choice of instrument for gathering qualitative data. However, these instruments were designed using the same constructs or variables for both the questionnaire and the interview guide which is very important when using a concurrent mixed method design (Cresswell, 2013), as this was the research design chosen for this study.

Prior to data collection from the participants, the researcher sent an introductory letter from the Department of Health Policy, Planning and management, School of Public Health to the District Health Directorate to seek their approval to carry the study. The questionnaires were administered by both the researcher and trained research assistants to ensure effective data collection and eliminate the possibility of leaving some portions unanswered.

Besides, both the researcher and research assistants explained to participants who had challenge in reading and writing, thus the study was not restricted to only respondents who were literate. To get the maximum cooperation of the respondents and minimize distractions, the respondents were only engaged after they were done with the necessary procedure regarding their treatment and were ready to exit the health facility.

The face-to face interviews were conducted in a serene environment to minimize distractions. The researcher also enquired from the interviewees the time that will be most appropriate to conduct the interview after which a time was scheduled. The interviews were tape recorded
with permission from the respondents in order to gather the necessary qualitative data. Two voice tape recorders were used so as not to miss any vital information in case one of them malfunctioned during the interview process. The duration for the interviews were between 30 minutes to one hour. The interview with the interviewees enhanced deeper understanding concerning the phenomenon under study.

### 3.7.1 Questionnaire

The questionnaire was a self-developed closed ended questionnaire with 30 items divided into four sections that focused on providing relevant answers to the research question. This was to obtain quantitative data from the patients.

The rationale for such a choice of instrument was based on its convenience to respondents in terms of completing them at the speed they want to go (Cohen et al., 2011). As a way of ensuring maximum reliability, the researcher ensured that the wording of the questions was clear, unambiguous and structured logically into sections and subsections (Somekh & Lewin, 2005).

Section A focused on demographic data of respondents whiles section B touched structural factors. With regards to section C and D, it solicited information on process quality of TB care and client satisfaction with quality of TB care respectively. In all, the 30 item questionnaire was structured using a five item Likert scale which ranged from strongly disagree to strongly agree.

### 3.7.2 Interview

In order to corroborate, validate and triangulate the data from the survey, semi-structured interview guide was designed to obtain qualitative data from the health care professionals. A face to face interview was considered appropriate for gathering this data due to its efficacy in
helping the researcher understand how the respondents think and feel about the phenomenon under study. Moreover, the use of semi-structured interview guide has the strength of increasing the comprehensiveness of the data and also makes data collection systematic for each respondent (Patton cited in Cohen et al., 2011).

### 3.8 Quality control

**Training of research assistants.**

A one-day training session for the two research assistants was organized by the researcher with the prime aim of equipping them with the required skills needed to assist in the study. The training was to help clearly spell out their tasks, including a discussion of the purpose of the study, ethical issues and administration of questionnaires. This was done before the data collection stage.

**Pretesting of instruments**

Considering the fact that understanding of the questions has the tendency to positively or negatively influence the outcome of the research findings, the researcher decided to conduct a pretest using 10 respondents for the survey and 2 respondents for the interview. This was deemed important to help the researcher identify ambiguities in the wording structure and make the necessary modifications where necessary to enable the respondents understand and provide relevant answers. Both Bryman (2012), and Somekh and Lewin (2005) have acknowledged that piloting a questionnaire is very crucial and exposes ambiguities and other probable pitfalls.

Also, in view of the essential skills needed to conduct an effective interview, piloting of the interview was done to enable the researcher gain some experience of using it and develop a sense of self confidence (Bryman, 2012). Besides, piloting of the interview was deemed very
vital to enable the researcher identify questions that make respondents feel uncomfortable and to identify any tendencies for respondents to be lost at any point in time (Cohen et al., 2011).

In both instances, the pre-test was done at Accra Regional Hospital among respondents who shared similar characteristics (TB patients) to those receiving treatment within Tema Metropolis. This procedure is strongly recommended by Bryman (2012).

3.9 Validity of instruments

Both instruments (interview guide and closed ended questionnaire) were subjected to face validity and content validity by the researcher to ensure that the measure actually reflects the content of the concept in question (Cohen et al., 2011). This was done by making it available to my colleagues, my supervisors and expertise in the field such as a TB coordinator with over 10 years of work experience. As such, they were able to make vital inputs and recommendations that helped in eliciting phenomenal responses that enriched the data that was gathered.

3.10 Reliability of the questionnaire instrument

To establish the reliability of the questionnaire instrument, a pretest of the questionnaire was conducted among 10 TB patients receiving care at Accra Regional Hospital. Data from the pilot test was coded and input into the SPSS to check for the reliability coefficient using Cronbach alpha techniques. A reliability co-efficient of 0.8 was generated after inputting the results obtained from the pretest, suggesting that the questionnaire is highly reliable.

3.11 Trustworthiness of the interview guide

To ensure reliability of the interview guide, Silverman (cited in Cohen, Manion, & Morrison, 2011) maintains that using a well-structured interview with an unchanged format and sequence of words for each of the respondents enhances reliability. In view of this, the interview was highly structured by the researcher using the same interview guide without
drifting from the format as indicated in the interview guide. However, this was done with caution as there was the need for the researcher to probe with follow-up questions whenever there was the need.

Additionally, being aware that trustworthiness and appropriateness are key facet to confirming reliability in qualitative studies, the researcher established trustworthiness by ensuring credibility, transferability, dependability and confirmability as stated by Guba and Lincoln (cited in Bryman, 2012). Besides, the intensive data collection and in-depth responses by means of the interview enhanced validity and reliability of the data gathered (Agar cited in Cohen et al., 2011). That notwithstanding, credibility was established by the researcher by means of respondent validation and triangulation of both the quantitative and qualitative results (Lincoln and Guba as cited in Bryman, 2012).

On the issue of transferability, a rich and thick verbatim descriptions of participants account, described by Gertz (as cited in Bryman, 2012) as "thick description" was employed to provide a database to serve as a basis for making judgment about possible transferability of findings to other settings similar to where the study was carried out (Lincoln & Guba as cited in Bryman, 2012). This was made possible by cautiously constructing the interview guide and using probes where necessary in the course of the interview to generate detailed information regarding the phenomenon under study.

With regards to the subject matter of dependability as a way of ensuring trustworthiness, the researcher kept complete records of all important data pertaining to the study and attached them to the study (see Appendix B and C). These included interview transcripts and records showing how the qualitative data was analyzed to establish the degree to which theoretical inferences were justified (Lincoln & Guba as cited in Bryman, 2012).
To ensure conformability, the researcher documented the procedure, checked and rechecked the data throughout the study. Brink, Van der Walt, and Van Rensburg (2012) have argued that to guarantee conformability, the data must reflect the voice of the respondents and not investigators biases or perception. Thus, the researcher constantly reflected over his values and often questioned himself to ensure that he was being as objective as he should be in reporting his findings (Lincoln &Guba as cited in Bryman, 2012). In view of this, the findings, conclusions and recommendations are supported by data that was collected from the respondents.

Finally, to ensure appropriateness of the interview guide, the responses obtained from the pilot test was evaluated to see if it answers the research questions and meets the objectives as well. According to Morse and Field (1995), appropriateness and adequacy are paramount in qualitative sampling.

3.12 Data analysis

The researcher used the Stata (Version 15.0) to analyze the quantitative data collected. Prior to this, the data collected were reviewed, coded, edited, and cleaned in order to identify instruments with incomplete data. The responses from the questionnaire were keyed into excel spreadsheet, exported to Stata (Version 15.0), and the results presented in the form of descriptive and inferential statistics. Summary statistics of categorical demographic factors were reported in terms of proportions and frequencies while that of continuous variables (age, domain scores of quality of health care and satisfaction) were reported in terms of means and standard deviations. Spearman correlation determines the strength and direction of the monotonic relationship between two variables. Spearman correlation value was used to measure the level of relationship between the various domain scores (quality of health care and satisfaction) and age. One-way ANOVA test was used to compare the average scores of
the domains across educational levels and type of occupation because they have three or more categories. Welch t-test was rather used to compare the average scores of the domains by sex (male\female) and marital status (married\unmarried) to determine the statistical significance between the variables.

To analyze the interview data, the raw data was transcribed in word, cleaned and the responses from the respondents identified with color codes to enable the researcher to easily associate specific responses to the appropriate interviewee. Subsequently, it was transported to word and subjected to four levels of coding after highlighting the main ideas in the raw data (see Cohen, 2011). These are;

1. **Open or Initial coding:** This was done by reading through the transcript several times and labeling sections of the transcript that was very significant to some facts that the data represented. This enabled the concept to emerge from the raw data and was subsequently jotted as memos. Different colours were used for each respondent for the purpose of easy identification and linking verbatim quotations to appropriate interviewees.

2. **Focused coding and category development:** At this stage, the researcher tried to gain understanding from the first level of coding. In order to do so, he tried to answer the question: "what is this data saying?" Additionally, data from the first level of coding that articulated similar ideas were merged together at this stage.

3. **Axial and thematic coding:** This is the stage whereby the researcher discussed into details the implications emerging from the second level of coding by relating codes into a larger category of common meaning. This was achieved by linking codes to context, to consequences, and to causes with the aim of becoming the category of axis around which a number of codes revolve (Cohen et al., 2011).
4. Development of theoretical concepts: This happens to be the last stage of the analysis whereby the researcher generated theoretical concepts based on the implications that was discussed under the axial and thematic coding.

3.11 Ethical considerations

Prior to the study, an approval was sought from the Ethical Review Committee of the Ghana Health Service (GHS), ethical clearance with review number GHS-ERC 026/03/18 was given. Informed consent of respondents was also sought before they participated in the study. The proposal was also submitted to the University of Ghana, College of Health Sciences research ethics committee for ethical clearance.

The district health directorate was contacted and notified of the intention to conduct the study and permission obtained from them. Subsequently, an introductory letter was obtained from the Head of Department, Health Policy, Planning and management, School of Public Health, College of Health Sciences, University of Ghana and sent to them. A copy of the approval letter from the Ghana Health Service Ethical Review Committee will also be sent to the authorities.

3.11.1 Privacy and confidentiality

Interview with participants was conducted in private, questionnaires for data collection was coded and name of participants was not required in completing the questionnaire. Information gathered on participants and transcribed word files from interviews conducted with service providers were kept strictly confidential between the researcher and the study participants by storing data with password known to only the researcher and locking the questionnaire under key.
3.11.2 Compensation

There was no compensation for participating in the study and study participants were duly informed before they chose whether to take part in the study or not.

3.11.3 Risks and Benefits

Apart from the time that was lost in participating in the interview, there was no risk or cost associated in participating in the study. There were no direct benefits associated with taking part in the study. However, it is expected that the results of the study would contribute towards policy decision making in order to improve upon TB care services delivery.

3.11.4 Voluntary withdrawal

Participants were at liberty to withdraw from the study at any point in time and this did not create any problem between the researcher and the respondent. Data collected on any participant who withdrew from the study at any stage was to be deleted. Participants could also choose not to answer any individual question or all the questions.

3.11.5 Declaration of conflict of interest

The researcher as the principal investigator declares no conflict of interest in this study.
CHAPTER FOUR

RESULTS

4.0 Introduction

This chapter focuses on analysis and presentation of the results of the study. Using a survey, quantitative data was collected from 113 patients diagnosed with TB, tabulated, analyzed and interpreted using descriptive statistics. In addition, qualitative data was also collected to support the quantitative results.

The findings are presented in five sections as follows:

1. Section I - Demographic data of respondents.
2. Section II - Structural quality for TB case management.
3. Section III - Process quality for TB case management.
4. Section IV - Client satisfaction with quality of TB care.

4.1 Demographic distribution of TB patients in Tema Metropolis

This section contains the bio-data of the survey respondents in terms of their sex, age, educational level, marital status, and employment status. Similarly, four unit heads comprising of three TB coordinators and laboratory technologist were interviewed. In all, 117 respondents were used for the study.

A total of 126 TB patients out of the total number receiving care within the Tema Metropolis were selected for the purpose of obtaining quantitative data for this study. However, 113 respondents were used following a return rate of 89.7%. Fifty percent of the survey respondents were aged below 37 years. Males were the dominating sex group occupying
51.3% (58/113) of study participants. Approximately equal proportion of study respondents were married and unmarried. The proportion of study respondents with Primary/Primary level/JSS/JHS and Secondary/vocational/technical level were 36.3% (41/113) and 35.4% (40/113) respectively. However, about one person of every five selected respondents had no formal education (20.4%, 23/113). Majority of the respondents were in the informal working sector (44%, 50/113). Detailed information on the demographic characteristics of the study participants are shown in Table 4.1.

Table 4.1: Demographic distribution of TB patients in Tema metropolis

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age: Median (LQ,UQ)</strong></td>
<td>37(29,49)</td>
<td></td>
</tr>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>58</td>
<td>51.33</td>
</tr>
<tr>
<td>Female</td>
<td>55</td>
<td>48.67</td>
</tr>
<tr>
<td><strong>Current Marital Status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>57</td>
<td>50.44</td>
</tr>
<tr>
<td>Unmarried</td>
<td>56</td>
<td>49.56</td>
</tr>
<tr>
<td><strong>Highest Educational Level</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No education</td>
<td>23</td>
<td>20.35</td>
</tr>
<tr>
<td>Primary level/JSS/JHS</td>
<td>41</td>
<td>36.28</td>
</tr>
<tr>
<td>Secondary/vocational/technical level</td>
<td>40</td>
<td>35.40</td>
</tr>
<tr>
<td>Tertiary level</td>
<td>9</td>
<td>7.96</td>
</tr>
<tr>
<td><strong>Occupation Type</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Formal</td>
<td>35</td>
<td>30.36</td>
</tr>
<tr>
<td>Informal</td>
<td>50</td>
<td>44.64</td>
</tr>
<tr>
<td>Unemployed</td>
<td>28</td>
<td>25.00</td>
</tr>
</tbody>
</table>

LQ: Lower quartile, UQ: Upper quartile, JSS: Junior Secondary School, JHS: Junior High School
4.2 Assessing quality of health care in TB case management

In assessing the quality of health care among the study participants, the following three domains were evaluated on a scale of 1 (strongly disagree) to 5 (strongly agree): the structural quality, Process quality and outcome quality (client satisfaction).

4.2.1 Structural quality of TB care

The findings under this theme pertains to research question 1 which is stated as: What are the structural quality for TB case management? In view of this, both clients and TB unit heads within Tema Metropolis were asked a number of questions to determine the inputs available for quality for quality TB case management.

Concerning issues with the structural quality for TB management, almost all (97.3%, 110/113) the study respondents disagreed/strongly disagreed to the fact that there was a separate counselling room at the facility. This finding was also evident in the qualitative data as it emerged from the analysis that, the area designated for counseling TB patient predisposes clients’ confidential information to third parties, and this is often beyond the control of the health care worker. According to one interviewee "the waiting area for others also interferes with counseling. Therefore, privacy is not all that assured (Interview participant #1 [Nurse TB coordinator])." In agreement with this assertion, other participants disclosed that;

"We don't have enough rooms but we have benches outside and that is where they sit. They sometimes hear what we say, but we lower our voices so they don’t hear us when we are discussing delicate or private issues." Also, another interviewee verbalized that; " we don’t have a safe place in our counseling centre."

...those who come for counselling come inside and those waiting too sit outside on the bench. We don't have enough rooms but we have benches outside and that is where they sit. They sometimes hear what we say but we lower our voices so they don’t hear us when we are discussing delicate or private issues (Interview respondent #4 [TB nurse coordinator]).
Also, availability of a comfortable waiting room well-furnished was a challenge as 96.5% (109/113) of the respondents disagreed/strongly disagreed to its existence. This result is mirrored in the qualitative findings in which it was also established that, waiting area for TB patients lacked basic structural amenities. Explaining these happenings, one participant claimed that; ...other facilities I’ve worked with before, space has been a problem. Most of the facilities don’t have a separate place for TB microscopy. Everything is done in the main laboratory." (Interview respondent #2 Laboratory technologist). Interview participant #1 also mentioned that; "I think our cubicle is too small, there is only one bench placed there for clients." Another respondent gave a vivid description of this situation and uttered that;

there are a number of problems that we face in the unit. At times, we get more cases such that some clients will have to wait outside. There is no shade for them to sit under it and that also can give them a lot of problem... For urinal and where to pass stool, we don’t have such place in our unit; unless you leave the client or leave the place and walk about 100meters before you can get a place to urinate or ease yourself... Clients come and ask where will I urinate if I want to urinate? We direct them to the bush and that place is also not safe because something may happen to them...

With regards to adequate number of DOT nurses, about a third of the respondents agreed that number of nurses at the TB unit was adequate while 56.6% (64/113) of them disagreed to it. Similarly, the qualitative data established that some units are challenged in terms of adequate human resource albeit various units being set up to complement the work of each unit to provide care to TB patients. In line with this, interview participant #1 (nurse; TB coordinator) disclosed that; "...for nurses, we are two and we are doing ART and then TB. And then for pharmacy too, there is shortage of staffs over there...". Other participants had different views and had this to say; "...we have enough; we have three staffs at the unit. So for human resource, we don’t have a problem (laboratory personnel)." Another nurse claimed that
“…for number of staff at the TB unit within TGH, that one I may say we lack staff; we have only two staff. That is not enough” (Nurse; TB coordinator).

Availability of medicine and sputum containers was not a challenge for the management of TB case as over two-thirds of the study respondents agreed that medicines and sputum containers were available anytime they visited the facility (Table 4.2). Corroborating this results, the interview data revealed that, lack of medication at TB centers which hitherto was a challenge in previous years, is now a thing of the past. This idea was expressed in a statement that "We don’t have any problem with the drugs" (Interview participant #4: TB nurse coordinator). Another participant also confirmed that; "For the medications we don’t have a problem with that, it was last year that we were facing some little challenges about the medication" (Nurse; TB coordinator).

Similarly, the interview data revealed that sometimes clients do not get basic logistics (sputum containers, laboratory forms) needed for vital investigations. The interview data additionally indicated that, inadequate essential logistics such as sputum containers and stationary items (X-ray and laboratory forms) delay initiation of TB treatment. For instance, participant #3 (Nurse; TB coordinator) expressed that: "For the material especially the sputum containers, at times you may send somebody to the lab for the sputum sample and they will tell us the person cannot do the sputum. Why? Because there is no sputum container...". This idea is supported by another participant who disclosed that: "...for the forms we sometimes get some from Metro but they are not enough. So when we get one, we run photocopies" (Interview participant #4: TB nurse coordinator).

Details of item responses for structural quality for TB treatment are shown in Table 4.2.
Table 4.2: Structural quality factors

<table>
<thead>
<tr>
<th>Structural quality factor</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Separate counselling room</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly disagree / Disagree</td>
<td>110</td>
<td>97.34</td>
</tr>
<tr>
<td>Neutral</td>
<td>2</td>
<td>1.77</td>
</tr>
<tr>
<td>Strongly agree / Agree</td>
<td>1</td>
<td>0.88</td>
</tr>
<tr>
<td><strong>Comfortable waiting room</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly disagree / Disagree</td>
<td>109</td>
<td>96.46</td>
</tr>
<tr>
<td>Neutral</td>
<td>2</td>
<td>1.77</td>
</tr>
<tr>
<td>Strongly agree / Agree</td>
<td>2</td>
<td>1.77</td>
</tr>
<tr>
<td><strong>Adequate number of DOT nurses</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly disagree / Disagree</td>
<td>64</td>
<td>56.64</td>
</tr>
<tr>
<td>Neutral</td>
<td>12</td>
<td>10.62</td>
</tr>
<tr>
<td>Strongly agree / Agree</td>
<td>37</td>
<td>32.74</td>
</tr>
<tr>
<td><strong>Availability of medicine</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly disagree / Disagree</td>
<td>12</td>
<td>10.62</td>
</tr>
<tr>
<td>Strongly agree / Agree</td>
<td>101</td>
<td>89.38</td>
</tr>
<tr>
<td><strong>Availability of sputum containers</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly disagree / Disagree</td>
<td>23</td>
<td>20.35</td>
</tr>
<tr>
<td>Strongly agree / Agree</td>
<td>90</td>
<td>79.64</td>
</tr>
</tbody>
</table>

4.2.2 Process quality of TB care

This section provides detailed findings in relation to research question 2 which is stated as: what is the nature of process quality of service rendered to TB patient within Tema Metropolis? Questions were structured in line with International Standard for TB Care indicators to suit this study.

Detailed results on item responses for process quality for TB treatment are shown in Table 4.3. For process quality of TB case management, majority (85%, 97/113) of the respondents agreed that the DOT staff explained treatment\health advice in an understandable way to them. Subsequently, more than two-thirds of the study respondents agreed that they were educated on treatment duration (81.4%, 92/113) and given adequate information about disease after being diagnosed (82.3%, 93/113). In accord with these declarations, the interview data authenticated that provision of counselling services to TB clients prior to confirmation of diagnosis and commencement of TB treatment is paramount to TB health
care providers. A participant stated that; "I counsel the person..." (Interview participant #1; TB nurse coordinator). Another participant confirmed this and verbalized that; "we first of all counsel them..." (Interview participant #4; TB nurse coordinator). This idea is supported by another participant who emphasized that; "Before they start with medication we explain everything about the drug for them to understand... When taking this drug, you are not supposed to drink any hard liquor or smoke" (Interview respondent #4 [TB nurse coordinator]).

In addition, 91.1% (103/113) of the survey respondents confirmed that HIV counselling and testing was done for them as part of the routine management. Similarly, it emerged from the interview data that TB health care providers consider HIV testing and counselling as crucial in the management of TB. This idea is expressed by interview participant #1 (TB nurse coordinator) who disclosed that; "...we are two and we are doing anti-retroviral testing (ART) and then TB."

Although only a third (36.3%, 41/113) of the respondents agreed that they could contact staff after working hours for further information, language barrier was not much of a problem as about seven of every ten (68.1%, 79/113) selected respondents agreed that language barrier issues were always addressed. In most cases the respondents described the health workers as friendly (72.6%, 82/113) and listen to their complains (63.7%, 72/113). Additionally, whereas 67.2%, (76/113) of the survey respondent disagreed to the statement that their privacy was respected during the course of treatment, 23.8% agreed. This finding is confirmed by the qualitative data which revealed that patients’ privacy is compromised due to infrastructural deficiencies. In relation to this issue interview participant #1 (TB nurse coordinator) disclosed that, “privacy is not all that assured. The waiting space is in front of the cubicle”. Another participant added that:
“At times, we get more cases such that some clients will have to wait outside, there is no shade for them to sit under and that also can give them a lot of problem. When people are passing by, they watch them and ask, what are these people doing here? Who are they? What are they looking for? (interview participant #3 [TB nurse coordinator])”

Furthermore, 80.5% (90/113) of the survey respondents asserted that history of people (especially children under five) was of concern to the health care provider. Confirming this results, the interview data established that TB healthcare providers are keen on reaching out to all who need or require TB treatment. Furthermore, the qualitative made it evident that home verification is carried out at clients residence to identify others who may be having TB following outcome of a positive diagnosis. This view is expressed by interview participant #1 (TB Nurse coordinator) who asserted that; "...when the person tests positive we do home verification...". Another participant disclosed that; "when the person arrives at the unit we go to or visit the house for verification and advice the family" (Interview participant #4 (TB nurse coordinator).

It can also be seen from Table 4.3 that, 57.5% (65/113) of the survey respondents were of the view that they swallowed their medication under supervision by a trained health care provider, as against 39.8% (45/113) who disagreed. In the same way, the interview data revealed that, TB care providers responsible for administering medications to TB patients take maximum advantage of DOT to ensure that TB clients take their medication every morning and consistently. According to one interviewee; "We do DOT, that is directly observed therapy, so every morning they come here and then take the medication" (Interview participant #1 [TB nurse coordinator]). This is confirmed by another participant who shared this view;

We do DOT, if we say DOT it means Direct Observation Therapy because the first two months of the TB treatment, the person needs to be observed every morning because the medicine is taken once daily. So every morning, the person needs to take his medication, so the person reports in the morning, we give the person medication for the person to take, after that the person leaves. (Interview participant #3 [TB nurse coordinator]).
In relation to being educated on adverse effect of medication, 74.3% (84/113) affirmed that they were educated on the adverse effect and told to report immediately they encountered such a problem. 23.9% (27/113) however disagreed that they were educated on this issue.

Data from the qualitative analysis also made it clear that, TB care providers who administer TB medications provide valuable information about the medication to the client. The interview data further revealed that, TB care providers monitor the therapeutic effects of the medication as well as adverse effect of the prescribed TB drugs. In support of this claim, one interviewee mentioned that:

...those who cannot come around, we communicate with their close relations on how they will be take the drug. Before they start with medication, we explain everything about the drug for them to understand and the drug is given according to your weight... The drug is taking at 6am then you eat at 7am." (Interview participant #4 [TB nurse coordinator]).

Another participant added that; "we give the person medication for the person to take, after that the person leaves. We do that because we want to know if there is some drug effect... we do DOT as to identify the challenges the person is going through..." (Interview participant #3 [TB nurse coordinator]).

Moreover, 84.9% (96/113) of the survey respondents established that three or more follow-up sputum microscopy was done for them as a way of monitoring their response to therapy. Equally, the qualitative data established that some vital health investigations including sputum test and chest X-ray are carried out by the health team tasked with the responsibility of providing care for TB patients in order to ascertain the success of TB treatment outcome.

In addition, it emerged from the qualitative data that Treatment of TB involves a multidisciplinary health team who complement the work of each other to arrive at a common goal.

For instance, interview participant #3 disclosed that; "For you to know that the person has been cured, you have to let the person go to the lab for his sputum to be checked and do a
chest X-ray as well. This is what helps us to know that the person has recovered or not” (Interview participant #3 [TB nurse coordinator]). This view is supported by another interviewee (Interview participant #2 [laboratory technologist]) who also emphasized that;

...we do sputum test as well and when the result is negative then we know there is nothing but when the person is positive after the second month we will do the test, the fifth month same and at the end of month six when we confirm everything is negative then we know the person is cured. Then we stop the intake of the drug.

<table>
<thead>
<tr>
<th>Table 4.3: Process quality factors</th>
<th>Strongly Disagree / Disagree N(%)</th>
<th>Neutral N(%)</th>
<th>Strongly Agree/ Agree N(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff explained treatment\health advice in an understandable way</td>
<td>14(12.39)</td>
<td>2(1.77)</td>
<td>97(85.84)</td>
</tr>
<tr>
<td>I was educated on treatment duration and adverse drug reaction</td>
<td>19(16.81)</td>
<td>2(1.77)</td>
<td>92(81.41)</td>
</tr>
<tr>
<td>I was given adequate information about disease after being diagnosed</td>
<td>17(15.04)</td>
<td>3(2.65)</td>
<td>93(82.30)</td>
</tr>
<tr>
<td>I am able to contact staff after working hours for further information</td>
<td>70(61.94)</td>
<td>2(1.77)</td>
<td>41(36.28)</td>
</tr>
<tr>
<td>Language barrier issues were addressed</td>
<td>31(27.43)</td>
<td>5(4.42)</td>
<td>77(68.14)</td>
</tr>
<tr>
<td>Health workers were friendly to me</td>
<td>21(18.58)</td>
<td>10(8.85)</td>
<td>82(72.57)</td>
</tr>
<tr>
<td>Health workers listen to my concerns</td>
<td>29(25.66)</td>
<td>12(10.62)</td>
<td>72(63.72)</td>
</tr>
<tr>
<td>My privacy was respected in the course of treatment</td>
<td>76(67.25)</td>
<td>10(8.85)</td>
<td>27(23.89)</td>
</tr>
<tr>
<td>Health workers treated me with respect</td>
<td>25(22.12)</td>
<td>9(7.96)</td>
<td>79(69.91)</td>
</tr>
</tbody>
</table>
I was assured of confidentiality prior to treatment and during treatment. 69(61.06) 4(3.54) 40(35.39)

History of people (especially children under 5) was of concern to the health workers 20(17.7) 2(1.77) 91(80.53)

I took my medication under supervision of trained health care provider during the first two months of treatment 45(39.82) 3(2.65) 65(57.52)

I was educated on adverse effects of the prescribed medication and the need to report immediately 27(23.89) 2(1.77) 84(74.34)

Three or more follow-up sputum microscopy was done for me to monitor treatment response 15(13.27) 2(1.77) 96(84.95)

HIV testing and counselling was done as part of the routine management. 8(7.07) 2(1.77) 103(91.15)
4.2.3 Outcome (Client satisfaction) of TB care

This section provides details of client satisfaction with TB care in response to research question three which is stated as: How satisfied are TB clients with the healthcare rendered to them within Tema Metropolis?

In assessing patients’ satisfaction with TB care as shown in Table 4.4, majority (53.1%, 60/113) of the respondents disagreed that reporting time at the chest clinic was convenient for them. Many (83.2%, 94/113) of the study respondents agreed to be satisfied in terms of the improvement in signs and symptoms after taking medication. Correspondingly, it emerged from the qualitative data that, adherence to TB treatment regimen provides relief from signs and symptoms associated with TB. One participant expressed that; "...they accept it and see improvement like within two weeks to a month and in fact they don’t joke with the medication" (Interview participant #1 [TB nurse coordinator]). This is confirmed by another participant who explained that; ...those who take the medications realize that their condition has improved. They become happy and thank the nurses" (Interview participant #2 [Laboratory technologist]).

About 55.8% (63/113) agreed to the statement that they were satisfied with the healthcare workers always being available to attend to them whereas 42.5% (48/113) disagreed. Also, 62.0% (70/113) of the study respondents were satisfied with the total hours of service provision in a day respectively. Concerning the convenience of waiting time, majority 52.2% (59/113) of the respondents disagreed that waiting time was convenient for them. The qualitative data in corroborating this result revealed a similar picture that, inadequate staff at some units impede the smooth flow of work. According to one interviewee; "...we are two and we are doing ART and then TB. And then for pharmacy too, there is shortage of staffs over there and so, at times our medications and how to get them is a problem" (Interview
participant #1). In all, the average satisfaction level score for TB care was rated 3.35 ± 0.87 as shown in Table 4.5.

**Table 4.4: Outcome (client satisfaction) quality factors**

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Convenient reporting time</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly disagree / Disagree</td>
<td>60</td>
<td>53.1</td>
</tr>
<tr>
<td>Neutral</td>
<td>1</td>
<td>0.88</td>
</tr>
<tr>
<td>Strongly agree / Agree</td>
<td>52</td>
<td>46.01</td>
</tr>
<tr>
<td><strong>Improvement in signs and symptoms after medication</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly disagree / Disagree</td>
<td>14</td>
<td>12.39</td>
</tr>
<tr>
<td>Neutral</td>
<td>5</td>
<td>4.42</td>
</tr>
<tr>
<td>Strongly agree / Agree</td>
<td>94</td>
<td>83.19</td>
</tr>
<tr>
<td><strong>Healthcare providers always available to attend to me</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly disagree / Disagree</td>
<td>48</td>
<td>42.48</td>
</tr>
<tr>
<td>Neutral</td>
<td>2</td>
<td>1.77</td>
</tr>
<tr>
<td>Strongly agree / Agree</td>
<td>63</td>
<td>55.75</td>
</tr>
<tr>
<td><strong>Convenient total hours of service provision in a day</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly disagree / Disagree</td>
<td>43</td>
<td>38.05</td>
</tr>
<tr>
<td>Strongly agree / Agree</td>
<td>70</td>
<td>61.95</td>
</tr>
<tr>
<td><strong>Convenient waiting time</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly disagree / Disagree</td>
<td>59</td>
<td>52.21</td>
</tr>
<tr>
<td>Neutral</td>
<td>1</td>
<td>0.88</td>
</tr>
<tr>
<td>Strongly agree / Agree</td>
<td>53</td>
<td>46.91</td>
</tr>
</tbody>
</table>

From Table 4.5, the average rated score of the structural quality for TB case management was 2.75 ± 0.40. For process quality for TB case treatment and outcome factors (client satisfaction), average score was rated by the respondents as 3.6 ± 0.49 and 3.35 ± 0.87 respectively. The internal consistency checks (Cronbach alpha) for the various domains were: Structural Factors – 0.409, Process Factors – 0.710, and Satisfaction – 0.781.
Table 4.5: Descriptive statistics of the domains of quality of health care

<table>
<thead>
<tr>
<th>Domain</th>
<th>Mean</th>
<th>SD</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Cronbach Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structural Factors</td>
<td>2.75</td>
<td>0.40</td>
<td>1.60</td>
<td>4.00</td>
<td>0.409</td>
</tr>
<tr>
<td>Process Factors</td>
<td>3.60</td>
<td>0.49</td>
<td>1.60</td>
<td>4.40</td>
<td>0.710</td>
</tr>
<tr>
<td>Outcome Factors</td>
<td>3.35</td>
<td>0.87</td>
<td>1.80</td>
<td>5.00</td>
<td>0.781</td>
</tr>
</tbody>
</table>

SD: Standard deviation

Comparison of quality of health care by demographic characteristics of patients

In comparing the various quality of health care domain scores across the demographic characteristics of the study respondents, two of the quality of health care domain scores (Structural and Process factors) were not significantly associated with any of the demographic characteristics (p>0.05). However, outcome quality that is clients’ satisfaction score was significantly associated with the marital status of the study respondents. From the welch t-test, average unmarried respondents were more satisfied than the married ones (3.54 ± 0.84 versus 3.17 ± 0.87, p=0.025). Statistically there was no enough evidence to show that the respondents age and highest educational level were associated with patient’s level of satisfaction of quality of TB care (p>0.05).
Table 4.6: Comparison of level quality of health care by demographic characteristics of patients

<table>
<thead>
<tr>
<th></th>
<th>Structural factors</th>
<th>Process factors</th>
<th>Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean ± SD</td>
<td>p-value</td>
<td>Mean ± SD</td>
</tr>
<tr>
<td>Age</td>
<td>0.07</td>
<td>0.455 ‡</td>
<td>-0.14</td>
</tr>
<tr>
<td>Sex</td>
<td>0.848 t</td>
<td>0.718 t</td>
<td>0.295 t</td>
</tr>
<tr>
<td>Male</td>
<td>2.74 ± 0.36</td>
<td>3.59 ± 0.57</td>
<td>3.43 ± 0.91</td>
</tr>
<tr>
<td>Female</td>
<td>2.75 ± 0.45</td>
<td>3.62 ± 0.4</td>
<td>3.26 ± 0.83</td>
</tr>
<tr>
<td>Current marital status</td>
<td>0.900 t</td>
<td>0.979 t</td>
<td>0.025* t</td>
</tr>
<tr>
<td>Married</td>
<td>2.74 ± 0.44</td>
<td>3.6 ± 0.48</td>
<td>3.17 ± 0.87</td>
</tr>
<tr>
<td>Unmarried</td>
<td>2.75 ± 0.37</td>
<td>3.61 ± 0.5</td>
<td>3.54 ± 0.84</td>
</tr>
<tr>
<td>Highest educational level</td>
<td>0.297 ø</td>
<td>0.328 ø</td>
<td>0.721 ø</td>
</tr>
<tr>
<td>No education</td>
<td>2.85 ± 0.45</td>
<td>3.44 ± 0.61</td>
<td>3.22 ± 0.86</td>
</tr>
<tr>
<td>Primary level</td>
<td>2.81 ± 0.41</td>
<td>3.66 ± 0.44</td>
<td>3.31 ± 0.83</td>
</tr>
<tr>
<td>Secondary/vocational/technical</td>
<td>2.69 ± 0.38</td>
<td>3.63 ± 0.47</td>
<td>3.43 ± 0.94</td>
</tr>
<tr>
<td>Tertiary level</td>
<td>2.89 ± 0.35</td>
<td>3.67 ± 0.5</td>
<td>3.53 ± 0.88</td>
</tr>
<tr>
<td>Occupation type</td>
<td>0.876 ø</td>
<td>0.878 ø</td>
<td>0.733 ø</td>
</tr>
<tr>
<td>Formal</td>
<td>2.75 ± 0.37</td>
<td>3.61 ± 0.43</td>
<td>3.27 ± 0.80</td>
</tr>
<tr>
<td>Informal</td>
<td>2.76 ± 0.41</td>
<td>3.62 ± 0.47</td>
<td>3.42 ± 0.89</td>
</tr>
<tr>
<td>Unemployed</td>
<td>2.71 ± 0.46</td>
<td>3.36 ± 0.61</td>
<td>3.34 ± 0.6</td>
</tr>
</tbody>
</table>

*p<0.05, **p<0.01, ***p<0.001, SD: Standard deviation, ‡: Spearman correlation value(rho), §: p-value from Spearman correlation test, ø: P-value obtained from One way ANOVA test, t: P-value obtained from Welch t-test.
CHAPTER FIVE

DISCUSSION

5.0 Introduction

This chapter discusses the findings of this study under four (4) themes: These are demographic data of respondents; structural quality for TB case management; process quality for TB case management; and clients’ satisfaction with quality TB care.

5.1 Demographics characteristics of respondents.

Findings from the study revealed that majority (51.3%) of the survey respondents were males whereas 48.7% were females. This shows that more males were affected with TB as compared to females in the study area. Moreover, the survey results showed that 50% of them were below age 37 years. Thus, it can be inferred that most of the survey respondents were in their youthful or young adult stage. This calls for much concern as these age group form the productive workforce of the economy.

Additionally, 50.4% of the survey respondents were married. This implies that their partners may stand the risk of acquiring the disease by virtue of the close contact with them following failure to put in preventive measures. With regards to their level of education, 36.3% had basic education, 35.4% had senior high school education and 7.9% had tertiary education. These findings show that most of them had some level of formal education. In terms of employment, most of them were either employed in the formal sector (19.4%) or informal sector (57.0%). It can therefore be argued that majority of them had a source of income to support them earn a living.
5.2 Structural quality for TB case management

The discussion under this theme relates to research question one that aimed at exploring the structural quality for TB case management. It became evident from both the survey and interview data that adequate rooms for counselling services was a challenge to health care providers providing care to TB patients as discussed in chapter 4. The import of this finding may suggest that, despite being aware that the environment was not therapeutic for counselling due to infrastructural deficiencies, health care providers managed to work within the little space and rooms that was available to them. This may however compromise confidentiality of clients information without client’s consent, thus providing a breeding ground for stigmatization. However, WHO (2006) has emphasized among other factors that, health systems should strive to improve on making healthcare safe by means of ensuring that client is free from any risk or harm after the provision of healthcare service.

On the subject matter of waiting area, majority (96.5%) of the survey respondents disagreed that the waiting area was comfortable and had adequate chairs. Consistent with this results from the survey, the qualitative data established that, waiting area for TB patients lack basic structural facilities. This unfortunate happening may not only create discomfort for the client, but may also lead to stress in seeking healthcare in addition to battling with the signs and symptoms associated with TB. Again, this result is contrary to the findings of Gebrekidan et al., (2014) in their study conducted in Ethiopia among private health facilities in which they established that, the physical structure for providing care to TB patients were resourced with good lighting, ventilation, water supply, chair, table, and waiting space. The geographical locations of where both studies were carried out in addition to the facilities may explain for the differences in findings. Whereas the latter study was carried out in Ethiopia and among private health facilities providing TB services, this study was done in Ghana, and among government hospitals providing care for TB patients. However, the constitution of the World
Health Organisation (1946) states that “the enjoyment of the highest attainable standard of
health is one of the fundamental rights of every human being without distinction of race,
religion, political belief, economic or social condition”.

Another finding worth discussing relates to adequate staff available to provide TB care.
Concerning this subject matter, both the survey and interview data established that there were
challenges pertaining to staffing as this was inadequate among some facilities. Thus, it can be
inferred from both the survey and interview data that irrespective of various units that have
been set up to provide diverse services to TB patients, some lacked the required staff strength
vital to the provision of quality services. In view of the challenge of low staff strength as
made evident in this study, it raises questions about the quality of care rendered to clients
who seek TB care at these facilities. Besides, low staff strength may lead to stress among the
healthcare providers and subsequently compromise quality of care.

For instance, whereas the laboratory unit was well resourced with adequate staff, that was not
same for the nursing unit oblivious of the fact that both units play critical role in the provision
of quality TB care to patients. This result mirrors other research findings that have argued
that adequate human resource despite being pivotal in provision of quality TB care,
persistently remains a challenge among developing countries (Drager, Gedik, & Dal Poz,
2006; Vitoria et al., 2009; Girma, Mariam, & Deribe, 2010; WHO, 2010). As a consequence,
this deficit in terms of human resource has the potential to compromise the quality of care, as
Ghana Health Service (2004) has emphasized that availability of competent and skilled
human resource is a prerequisite and driver to the provision of quality health care.

With regards to access to medications, most of (89.4%) the survey respondents endorsed the
statement that they always had medications whenever they visited the health facility. This
revelation was not surprising as the qualitative data further reiterated that lack of medication
at TB centers which hitherto was a challenge in previous years is a thing of the past as emphasized by the healthcare workers. The import of this finding may therefore suggest that, not only do healthcare facilities ensure that they have enough stock of medications, but also, they readily administer such medications to TB clients who seek healthcare at healthcare facilities. This is a good practice and a step in the right direction as Nezenega, Gacho, and Tafere (2013) have argued that lack of drugs among other factors negatively affect client's compliance to treatment.

Finally, another noteworthy issue discussing pertains to access to sputum container which is a very critical item needed for storage of sputum prior to carrying out sputum analysis. Although, majority (79.6%) of the survey respondents acknowledged that they always get sputum containers for laboratory investigation, a significant proportion (20.3%) of them disagreed. Concurrent with results from the survey data, it was established from the qualitative data and survey data that clients sometimes do not get basic materials needed for vital TB investigations. However, logistics such as X-ray forms, laboratory forms and sputum containers which are sometimes not readily available may compel TB healthcare providers to either improvise or delay initiation of diagnostic procedures even when medications are available, thus compromising the quality of TB care. Besides, such inadvertent practice can have dire consequences on the health of the patient and also predispose others within client's community to acquiring TB. This is certain to happen especially in instances whereby the client may be suffering from the condition, but is denied initiation of treatment due to lack of necessary logistics that will pave way for treatment to commence. According to Asemahagn (2014), unfair distribution of inputs and logistics can lead to poor quality of TB care; reducing quality of service to about 79% or 76%.

Despite the challenge of running out of sputum containers for laboratory investigation, most (84.9%) of the survey respondents confirmed that their sputum was taken at least two times to
determine response to treatment. This shows that laboratory personnel may not have denied clients of the needed care for the mere reason of lack of sputum containers. Yet, the interview data unraveled that, more attention is given to the training needs of health professionals such as nurses and doctors compared to other category of health professionals such as the biomedical scientist. In view of this finding, it can be argued that the biomedical scientists are the most disadvantaged in terms of having the opportunity to attend frequent workshops, irrespective of the fact that health professionals consider frequent training as an important ingredient to enhance their professional skills as was emphasized in the qualitative data. Consistent with these revelations, similar studies have shown that poor commitment to training, supervision and allocation of resources (Asemahagn, 2014) as well as lack of reagents and equipment (Sinishaw, Gebregergs, & Shiferaw, 2015) continue to be major problem that has encircled the laboratory unit.

In summary, availability of adequate counselling rooms, relaxed waiting area with comfortable chairs, inadequate staff and lack of logistics such as sputum containers were the main deficiencies in structural quality for TB case management. On the other hand, access to medications was not a worry to both the client and healthcare provider responsible for administering the TB medications.

5.3 Process quality for TB case management

The ensuing argument relates to discussion of findings from research objective 2 which seeks to assess the process quality for TB case management. From the survey, it was evident that TB staff explained treatment in a way clients could understand as majority (85.8%) of the survey respondents attested to this statement. This shows that there was effective communication between the healthcare providers and the clients. According to Deane and Parks (2006) for communication to be regarded as effective, the two key process of participation’ and ‘dialogue’ should be comprehensible between both the sender and receiver.
Furthermore, it has been emphasized that effective communication is a driver to the success or failure of treatment in the management of TB (Hargreaves et al., 2011).

Additionally, 81.4% of them also affirmed that they were educated on treatment duration and adverse drug reaction to their understanding; and issues regarding language barrier were addressed (68.1%). Contrary to the findings of Dodor and Kelly (2010) who stated that health care workers displayed negative attitude towards persons with TB, most (72.5%) of the survey respondents in this study revealed that health workers administering DOT were friendly in carrying out their responsibility. This finding was however not surprising because the interview data revealed that provision of counselling services to TB clients prior to confirmation of diagnosis and commencement of TB treatment is paramount to TB health care providers. It is interesting to note that health care providers adhere to such positive initiatives during the process of care for TB clients, especially when a plethora of studies have revealed that lack of understanding between the healthcare provider and the client inadvertently impede treatment success (Mishra, Hansen, Sabroe, & Kafle, 2006; Hargreaves et al., 2011). These positive initiatives during process of care are very imperative as it may not enhance process quality of care, but may possibly set the ball rolling for the health care provider to establish a therapeutic relationship with the client. Consequently, it could also perhaps provide the client the opportunity to ask questions and seek clarifications relating to treatment, thereby minimizing anxiety that may be associated with diagnosis of TB.

Moreover, it was established from both the survey data and interview that HIV counselling and testing was done for them (clients) as part of the routine management. These revelations from the study contradicts results from a Kenyan study that reported that information patients received on TB was scanty (The Kenya TB Care II report, 2013). This implies that TB care providers may be aware of the fact that people suffering from HIV/AIDS are at high risk of acquiring TB due to weakened immune system which predispose them to acquiring TB. Such
measures as initiated by TB care providers, is in line with the International Standards for Tuberculosis Care (2014) which has strongly emphasized that clinicians must be aware of individual and group risk factors for tuberculosis and perform prompt clinical evaluations and appropriate diagnostic testing.

Despite the fact that findings from both the survey respondents and interviewees converged in terms of provision of counselling services, privacy was less ensured during counselling sessions due infrastructural challenges. Substantiating this claim, whereas few (23.9%) of the survey respondents agreed to the statement that their privacy was respected during treatment, almost half (67.2%) of them disagreed. This unprofessional practice shows disregard for clients right to privacy, despite the fact that it is a matter of concern for TB patients (Atif, Javaid, Farooqui, & Sarwar, 2016). Besides, it breeches the ethical principle of patients right to privacy and confidentiality. However, the Centre for Disease Control and Prevention (CDC, 2014) has emphasized that, healthcare professionals need to be guided by ethical principle of patient right to privacy and confidentiality in the process of discharging their professional roles.

In addition, majority (80.5%) of the survey respondents asserted that history of people, especially children under five was of concern to the health care provider s. Correspondingly, it emerged from the interview data that healthcare providers carry out home verification at client’s residence to fish out for other relatives who may unknowingly be harbouring the disease. This is highly recommended by the International Standards for Tuberculosis Care (2014).

Another critical issue worthy of discussion relates to intake of medication which is vital to improving the health of TB patients. Although DOT which is globally recognized as the standard strategy to control tuberculosis (World Health Organization [WHO], 2009) requires
that client should be directly observed swallowing the medication (Ahmed, Skarbek, Codlin, Khan, & Mohaupt, 2012), however, findings from the study illustrated mixed results. A little above half (57.5%) of the survey respondents confirmed that they swallowed their medication under supervision by a trained health care provider, as against 39.3% who disagreed. Thus, one may question whether these patients who were unsupervised really took the drug or failed to take the drug in the absence of supervision. These figures call much attention especially when studies have reported that DOT is key in curing TB and preventing the emergence of drug resistance (Chien, 2013; Hirpa, 2013). On the other hand, the interview data illustrated that TB care providers responsible for administering medications to TB patients take maximum advantage of DOT to ensure that TB clients take their medication every morning and consistently.

This results from the qualitative data was not that surprising as some of the survey respondents attested to this practice. In addition, 36.3% were of the survey respondents were of the view that they were unable to contact TB staff after working hours. This may however be attributed to most of these facilities failing to work during weekends which is often considered as the "off days". Similarly, a study by Gebrekidan et al., (2014) revealed among other findings that facilities providing care to TB patients only operated from Mondays to Fridays to provide DOT services for TB clients (Gebrekidan et al., 2014).

Furthermore, both the interview and the survey data revealed that clients were provided with adequate information about their medications. This is very vital in recognizing the desired effect as well as adverse effect of medications. Majority (74.3%) of the survey respondents agreed to the statement that they were educated on the adverse effect and told to report immediately they encountered such a problem. Buttressing this claim, the interview data revealed that in addition to monitoring the therapeutic effects of the medication as well as
adverse effect of the prescribed TB drugs, TB care providers offer valuable information about the medication to the client.

This may be explained on the basis that TB care providers may perhaps be aware of the possibility of some clients developing drug resistance and for that matter need to be on the watch for such developments. Such exposure to relevant information about medications may not only help client to report adverse effects of medication, but may also complement the efforts of TB health care providers in recognizing the possibility of drug resistance.

Moreover, both the survey and interview data revealed that their sputum was taken for laboratory investigations to monitor for response to treatment. Specifically, 84.9% of the survey respondents established that three or more follow-up sputum microscopy was done for with the aim to identify response to treatment. Equally, the qualitative data established that some vital health investigations including sputum test and chest X-ray are carried out by the health team tasked with the responsibility of providing care for TB patients in order to ascertain the success of TB treatment outcome. Also, the interview data further advanced that, treatment of TB by health care professionals is informed by outcome of laboratory results and other findings emerging from different units within the health facility. This implies that TB treatment is guided by laid down protocols as stated by the International Standards for Tuberculosis Care (2014). This is highly commendable as such practice put into operation one of stipulated guidelines by the International Standards for Tuberculosis Care (2014) which has highlighted that health care workers are required to conduct sputum investigation to determine efficacy of treatment regimen.

In a nutshell, issues relating to privacy, respect, confidentiality, supervision in taking medication, ability to seek care beyond working hours, language barrier and effective communication by way of listening to clients concerns were identified as the major
shortcomings for process quality of TB case management. These shortcomings in some way confirms research findings that have argued that the quality of TB care in healthcare facilities is far below required international standard especially in high burden countries (Cazabon et al., 2017).

**5.4 Client satisfaction with quality of care**

The findings from the survey are discussed in conjunction with the findings from the interview to explain clients satisfaction with care. Most (46.0%) of the survey respondents agreed to the statement that reporting at the chest clinic is convenient for them. On the contrary, majority (53.1%) of them disagreed. This therefore shows that the reporting at the chest clinic was inconvenient for some clients. In effect, such clients are likely to drop out of treatment in the event that they are unable to continue reporting at the clinic every morning as required of them. Nevertheless, such patients need not be ignored in the event that they fall out of treatment due to this inconvenience.

In fact, it has been emphasized that there is the need to fine-tune strategies pertaining to TB programs so as to address special circumstances that are in line with what is acceptable within the local setting (WHO, 2014). Consistent with this recommendation, the interview data clearly portrayed that TB healthcare providers put in proactive measures to reach out to all who need or require TB treatment. For instance, one interviewee stated that; "...we go for home visit to check on them and those who cannot come around we communicate with their close relations on how they will be take the drug" (Interview respondent #1). Both Udwadia and Pinto (2007), and Metcalfe, O’Donnell, and Bangsberg (2015) have argued that such flexibility lends itself to a more individualized and patient centered approach to TB care.

On other hand, 83.2% of them acknowledged that they had seen improvement in their condition after taking their medication. This finding is validated by the interview data that
revealed that adherence to TB treatment regimen provides relief from signs and symptoms associated with TB. This implies that have health care professionals owe it a duty to counsel TB clients on the need to adhere to treatment regimen. Such pragmatic initiatives may not only inure to the benefit of the client but may also minimize the cost implications associated with treating drug resistant TB which is likely to occur as a result of drug non-compliance.

For example, it has been estimated that the average cost of treating Multi-drug resistance TB is $430,000 per patient compared to average cost of treating non-drug resistance TB which is also estimated at $134,000 (Marks et al., 2014). It is obvious that the cost implication for treating TB is highly expensive for the ordinary or average person to bear and for that matter may explain why TB treatment is free. Nevertheless, it emerged from the interview data that in as much as some clients have positive attitude towards TB treatment, others are unwilling to accept treatment unless the symptoms is too much for them to bear. Besides, it emerged from the interview data that initiation of TB treatment by most clients is based on their socio-cultural beliefs about the cause of TB. The import of this finding shows that people still have false misconceptions about TB and for that matter requires healthcare professionals to reinforce their campaign on TB.

Findings from the study also showed that quite a number (42.5%) of the survey respondents disagreed to the statement that healthcare workers were always available to attend to them whereas some agreed (55.8%). Accordingly, one may argue that those clients who disagreed to this statement were likely to be unsatisfied with quality of TB care particularly when research has shown that waiting time in accessing healthcare is critical in determining client's satisfaction with quality of care (Shirley & Sanders, 2013; Bleustein et al., 2014; Nottingham, Johnson, & Russell, 2018).
In a study conducted in Ethiopia to determine quality of TB care among TB patients, more than half of the respondents were dissatisfied with the appropriateness and adequacy of working hours and waiting time (Girma et al., 2010). In the same way, concerning issues of time, results from this study reveal a similar picture as quite a significant number of the survey respondents disagreed (38.0%) that the total hours of service provision in a day was convenient for them; and also being dissatisfied with waiting time in seeking healthcare (52.2%).

In conclusion, with the exception of improvement in signs and symptoms following intake of prescribed medication, a significant number of clients were less satisfied with issues relating to reporting time to seek care at the chest clinic, availability of healthcare providers, total hours of service provision as well as waiting time at the chest clinic.

5.5 Limitation of the study

The study was conducted only within Tema Metropolis and thus findings and conclusions from this study will be limited to TB patients accessing care within Tema Metropolis from whom data was gathered. Limitations are considered as conditions beyond the control of the researcher that may place restraints on the conclusion of the study and their application to other situations (Utts & Heckard, 2004).
CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.0 Introduction

This chapter presents the summary of findings, the conclusion paragraph and recommendations made based on the findings of the study.

6.1 Summary of key findings

From research question one, the following key findings emerged:

1. Waiting area for TB patients lack basic structural amenities such as urinal, place of convenience and comfortable chairs in addition to sub-standard counselling units which easily exposes clients confidential information, and this is often beyond the control of the health care worker.

2. Despite establishment of various units within the hospital to compliment the work of each other, some units are challenged in terms of adequate human resource personnel, and this impedes the smooth progress of work.

3. Although lack of medication at TB centers which hitherto was a challenge in previous years is a thing of the past, lack of other essential logistics such as sputum containers and stationary items (X-ray and laboratory forms) delay initiation of TB treatment.

4. Access to training is a challenge for healthcare professionals who provide TB care. Moreover, attention is given to the training needs of nurses and doctors compared to other category of health professionals such as the biomedical scientist.

Research question two uncovered that although certain practices were in accordance with laid down protocols; it is bedeviled with certain challenges as:

a. Provision of counselling services to TB clients prior to confirmation of diagnosis and commencement of TB treatment is paramount to TB health care providers, yet
patients’ privacy during counselling session is compromised due to infrastructural deficiencies.

b. Treatment of TB involves a multidisciplinary health team who complement the work of each other to arrive at a common goal. Therefore, health professionals consider the provision of professional human resource as critical to providing professional care to persons diagnosed with TB.

c. Recognizing early signs and symptoms of TB helps in averting the spread of the disease through implementation of the necessary pragmatic interventions. In view of this, home verification is carried out by TB care providers at clients residence to identify others who may be having TB following outcome of diagnosis.

d. TB care providers responsible for administering medications to TB patients take maximum advantage of DOT to ensure that TB clients take their medication every morning and consistently.

e. Some clients underrate the essence of taking medications which is administered at no cost despite improving the health of those who take it consistently. Hence, TB care providers who administer TB medications provide valuable information about the medication to the client.

With regards to research question tghree, it was established that;

a. Clients who adhere to TB treatment regimen are relieved of signs and symptoms associated with TB.

b. Counselling services offered in a serene environment is vital if patients are to appreciate the treatment services offered to them.

c. Emphasizing on why TB medications are free is significant in promoting acceptance of TB treatment among those infected.
d. TB clients are dissatisfied with waiting time whilst accessing healthcare at the TB unit.

6.2 Conclusion

The study was carried out to assess the quality of healthcare for TB clients in Tema Metro. Findings on structures available for TB care revealed that TB units lack structural amenities like counselling room and place of convenience also there is inadequate human resource which impedes smooth progress of work. Furthermore, findings on process quality showed that patients privacy is compromised due to infrastructural deficiencies and that health providers give valuable information about the disease condition to clients. With clients satisfaction with healthcare most of them saw improvement in their signs and symptoms after taking the medication. However, they were dissatisfied with the overall waiting time at the clinic although some were satisfied with total hours of service provision in a day.

6.3 Recommendations

1. Based on the findings that infrastructure in terms of inadequate counselling rooms and waiting area compromise confidentiality of clients’ information, it is recommended that donor organizations, ministry of health, National TB control programme and NGOs should support public and private facilities to improve on their TB units by providing counselling rooms, waiting areas and places of convenience to enhance quality of care provided to clients.

2. With regards to the finding that TB staff, especially the biomedical scientists are less exposed to trainings programs coupled with the findings that evaluation of TB treatment outcome is based on the combined roles of health care professionals, it is recommended that the Ministry of Health, Ghana Health Service and concerned
stakeholders give equal attention to the training needs of all categories of healthcare professionals who manage TB cases.

3. In view of the findings that some TB units are challenged in terms of adequate human resource personnel which subsequently impedes the smooth progress of work, it is recommended that employers such as Ghana Health Service and the Ministry of Health employ more staff and engage the services of trained community volunteers to beef up the staff strength within TB units to enhance their efficiency work.

4. Relating to the finding that some clients underrate the essence of taking medications which is administered free of charge, despite significant improvement in the condition of TB clients who take it consistently, it is imperative that healthcare workers collaborate with the media to educate the general public on why treatment is administered at no cost due to the cost implication which is expensive for the average citizen to afford.

6.4 Suggestion for further research

Further research should be conducted to assess quality of care for multi drug resistant TB cases since the management for such cases is more complex and expensive.
REFERENCES


APPENDIX A

Participant’s consent form

School of Public Health
College of Health Sciences
University of Ghana
Research Topic: Assessment of quality of healthcare for Tuberculosis patients (TB) in Tema Metropolis.

Introduction

I am PRISCILLA ABOAGYE MENSAH, a student pursuing Masters in Public Health in the School of Public Health, University of Ghana. I am the principal investigator in this study and together with my research assistants we are conducting a study on the above subject.

You are warmly invited to take part in the study. But before you make a decision to take part in the study or not, we would like you to read this consent or let someone read it to you to guide you.

There will be no costs for participating in this research and there will be no payments awarded for participating in this research. The only cost you will incur will be the time taken to answer the questionnaire.

Confidentiality

Every single information you provide will be held in absolute confidence and data collected in this study are strictly for research purposes and will be stored with passwords on electronic media and in safely locked boxes. Access to the data will be limited strictly to the researcher and supervisor. Anonymity will be ensured in dissemination of findings from this study since participants will not be identified by their names.

Ethical Approval

The study has been reviewed and approved by the Ghana Health Service Ethical Review Committee (GH-ERC). This committee is there to ensure that participants in researches are protected from harm and their rights are respected.

Participant’s Consent Form

I have read the foregoing information/ the foregoing information has been read to me or translated to me in a language that I understand and I have fully understood it. I consent voluntarily to participate in this study.
(Name and signature of a witness should be provided in a case where the participant cannot speak or read English)

Signature/thumbprint: ____________________________________

Name of witness: __________________________________________________

Signature/thumbprint of witness: ____________________

Interviewer’s Statement

I, the undersigned (your name), have explained this consent form to the participant in simple language that she/he understands, clarified the purpose of the study, procedures to be followed as well as the risks and benefits involved. The participant has freely agreed to participate in the study.

Signature of interviewer ………………………………………………

Date …………… / …………… / ……………

Address:

Telephone number:

Email address:

In case of any concern you can contact the Ethics Administrator, Miss Hannah Frimpong, GHS/ERC on: 0243235225 / 0507041223. Or the principal investigator Priscilla Aboagye-Mensah on : 0244826996.
APPENDIX B

SEMI-STRUCTURED INTERVIEW PROTOCOL FOR TB HEALTH CARE PROVIDERS

Dear Staff,

I am conducting a study on “Assessment of quality of healthcare for tuberculosis patients in Tema metropolis” it is purely for academic purpose. I will be carrying out a semi-structured interview in which our conversation will be audio-recorded and shall be kept in strict confidence, it will take about an hour or less of your time. You reserve the right to withdraw from the interview at any time but your professional opinion would be much valued and appreciated.

1. What has been your experience in terms of the following resources needed for quality TB care:
   a. Infrastructure (offices for counselling, waiting area that ensures privacy, separate unit to manage cases)
   b. Staffing / Human resource (Nurses, doctors, biomedical scientist, pharmacist)
   c. Training needs of workers designated to provide care for TB patients (how often training is organized, nature of training)
   d. Materials and logistics needed for provision of TB care (Medication, Sputum containers)
   e. Supervision (either from superiors i.e. district, national or you supervising clients)

2. How do you recognize that a person has TB?
3. What do you do for the client when you recognize that he/she has TB?
4. Who are those involved in their care?
5. What roles do these people play?
6. How do you monitor their intake of medication?
7. How do you evaluate the treatment outcome?
8. What is the general attitude of patients towards treatment?
9. How do patients value the treatment offered to them?

Thank you
APPENDIX C

PATIENT QUESTIONNAIRE

Dear Patient,

This is an academic research questionnaire carried out on “Assessment of Quality of Health Care for Tuberculosis Patients in Tema Metropolis”. It is purely for academic purpose and your objective response shall be kept in strict confidence and will not be discussed with anyone. You reserve the right to withdraw from the study at any time but your participation would be much valued and appreciated.

Kindly take time off your busy schedule and answer this questionnaire honestly.

Thank you.

SECTION A

SOCIO-DEMOGRAPHIC DATA

Put a tick (√) in the spaces provided.

1. Please state your age as at last birthday?

..............................

2. What is your gender?

1. Male [ ]

2. Female [ ]
3. Marital Status

1. Married
2. Single

e) Others specify ................................................

4. What is your highest educational level?

1. No formal education
2. Primary School level
3. Secondary/ Vocational/ Technical school level
4. Tertiary level

5. What type of occupation are you engaged in?

...............................
SECTION B: PROCESS QUALITY

Having visited the chest clinic to seek healthcare for Tuberculosis, please tell us your opinion about the service you received. Please tick (√) the answer that best describes the extent of your satisfaction with the services rendered to you.

Key:
1 – Strongly Disagree

2 - Disagree

3 – Somewhat Agree

4 - Agree

5 – Strongly agree

<table>
<thead>
<tr>
<th>STRUCTURAL FACTORS</th>
<th>Please tick (√) in the boxes</th>
</tr>
</thead>
<tbody>
<tr>
<td>STATEMENT</td>
<td>STRONGLY DISAGREE</td>
</tr>
<tr>
<td>1. There is a separate room for counselling</td>
<td>1</td>
</tr>
<tr>
<td>2. There is a comfortable waiting room with adequate chairs</td>
<td></td>
</tr>
<tr>
<td>3. The number of DOT nurses at the chest Clinic is adequate</td>
<td></td>
</tr>
<tr>
<td>4. Medicines are available at every visit</td>
<td></td>
</tr>
<tr>
<td>5. Sputum containers are available at every visit</td>
<td></td>
</tr>
<tr>
<td>6. Staff explained treatment/health advice in a way I could</td>
<td></td>
</tr>
</tbody>
</table>
7. I was educated on treatment duration and adverse drug reaction to my understanding
8. I was given adequate information about the disease after being diagnosed
9. I am able to contact staff after working hours for further attention/communication

10. Issues with language barrier was addressed
11. Health worker administering DOT treatment was friendly in carrying out his/her responsibility
12. The health worker listens carefully to my concerns
13. My privacy was respected during the course of treatment
14. Health worker treats me with respect
15. I was ensured of confidentiality prior to treatment and during treatment
16. History of people (especially children under 5) I had been in contact with was of concern to the health care provider
17. I took (swallow) my medication under supervision of a trained health care provider
within the first two months of treatment

18. I was educated on adverse drug effect of prescribed medications and the need to report immediately.

19. An assessment of the likelihood of drug resistance was done for me before commencing treatment

20. HIV counselling and testing was done for me as part of the routine management

**Patients satisfaction of TB care**

Please indicate the level to which you evaluate your satisfaction with regards to the following statements.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Somewhat agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>21. Reporting time at the chest clinic is convenient for me.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22. I have seen improvement in the signs and symptoms after taking the medications</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23. The healthcare providers are always available to attend to me</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24. Total hours of service provision in a day is convenient for me.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
25. Overall Waiting time at the chest clinic is convenient

Thank you
### APPENDIX D

#### QUALITATIVE DATA ANALYSIS

(Showing four levels of coding)

<table>
<thead>
<tr>
<th>Question</th>
<th>Raw Data</th>
<th>Source</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>What has been your experience in terms of the following resources needed for quality TB care:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Infrastructure</strong></td>
<td>I think our <strong>cubicle</strong> is <strong>too small</strong> and the <strong>waiting area</strong> for others also <strong>interfere</strong> with counselling. Therefore, <strong>privacy</strong> is not all that assured.</td>
<td>Resp #1</td>
<td>Privacy is a challenge because the waiting area which is too small interfere with counsellings</td>
<td></td>
<td></td>
<td>The area designated for counselling TB patient easily exposes clients confidential information to a third party, and this is often beyond the control of the health care worker.</td>
</tr>
<tr>
<td></td>
<td>The waiting space is in front of the cubicle. Besides, there is only one <strong>bench</strong> placed there for clients.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Patients privacy is compromised due to infrastructural deficiencies.
If we want to narrow it to Tema General Hospital, we have a separate room, we have the logistics, we have the equipment we need; the microscope, reagent and everything. For other facilities I've worked with before, space has been a problem. Most of the facilities don't have a separate place for TB microscopy. Everything is done in the main lab. So you can even have a place that, maybe smear is done outside the lab, then stain goes back into the lab.

The infrastructure we have in Tema General Hospital for TB unit is good, but there are a number of problems that we face in the unit. At times, we get more cases such that some clients will have wait outside. There is no shade for them to sit under it and that also can give them a lot of problem. When people are

We have the needed equipments, logistics and a separate room to go about our activities but other facilities don't have adequate space to work within

Although, the infrastructure is good, it lacks a urinal, place of convenience, and comfortable waiting area that lacks shade. This exposes clients to the public who watch these clients and question
passing by, they watch them and question the presence of those sitting outside; they ask, what are these people doing here? who are they? what are they looking for? We will urge the hospital to provide a shade so that those people who come for clinic will also be safe about the treatment, let me put it this way. Moreover where we offer the counselling is not also safe because we need to get about two or three fans in the room, but we only have one. And the one that we have is also far from where we do the counselling, I have learned that there should be distance between the client and the nurse, that will prevent the nurse or the TB DOT nurse from acquiring the infection. So we don’t have a safe place in our counselling centre. For urinal and where to pass stool, we don’t have such place in our unit; unless you leave the client or leave the
place and walk about 100 meters before you can get a place to urinate or ease yourself. Let me put it this way; that is also a very big challenge to us. Clients come and ask where will I urinate if I wanted to urinate? We direct them to the bush and that place is also not safe because something might happen to them. They may be bitten by a snake. We don’t have a place that we urinate.

The waiting room and the treatment area is okay and well ventilated. I mean those who come for counselling come inside and those waiting too sit outside on the bench. We don’t have enough rooms but we have benches outside and that is where they sit. They sometimes hear what we say but we lower our voices so they don’t hear us when we are discussing delicate or
### Staffing / Human resource

**For Tema General Hospital**
we have **enough**; we have **three staffs** at the unit. So for human resource, we **don’t have a problem.**

**Resp #2 (lab)**
We have no problem because we have three staff at our unit which is enough.

The staff strength at the unit is **adequate**.

The laboratory unit has the needed staff strength to provide services to TB patients.

**Resp #1**
There is shortage of nurses. Besides, the pharmacy has shortage of staff and therefore how to get medication is a challenge.

Shortage of nurses and staff at the pharmacy lead to delays in getting medications.

Although, various units have been set up to provide diverse services to TB patients, some lack the required staff strength vital to the provision of quality services.

Inadequate staff at some units impede the smooth flow of work.

**Okay, for Tema General Hospital (TGH), I will say they have all the team because when you go to the pharmacy, they have the pharmacy unit and they are**

**Resp #3**
We have the units made up of laboratory unit, pharmacy unit, nursing unit and doctors who

Despite having the various units to provide the needed services, the staff strength is not adequate,
doing good in TB. When you go to the Laboratory, they make sure it will be done before the day ends. For number of staff at the TB unit within TGH, that one I may say we lack staff; we have only two staff. That is not enough because at times one may go for ward rounds while the staff provide counselling services to clients. At times, you are called to other departments; they may call that you should come and do something or you will have a call from various department to come and see a client at the ward. So, for the staff it is not enough, so if we are about three or four that one you will be sure or okay about the work, as for the two staffs is not enough as well for the staff we need more staff about three or four. But the doctor, we have a little challenge about the doctors, we only see our Doctors normally when we have clinic provide the required services. However, we lack adequate staff as there are only two nurses and a doctor who attend to TB clients only on their clinic days; we urge authorities to provide us with a doctor at our unit. The number of staff is therefore not enough and a challenge to us.
days, they have a clinic day for ART but ART also works with TB and HIV so when there is no clinic you find it very difficult to see Doctors at OPD, so we also urge the head of facility to also give us doctors. We also work hand in hand with them at the TB unit. If we will get a doctor at the TB Centre for us to work with us, we will also be glad about that.

The nurses are very hardworking especially those at the chest clinic. They are very helpful and with the doctors too we have one Medical Assistant and one Physician Assistant and with the physician assistant when the clients are diagnosed we take them to him and he gives us the go ahead to start. The lab technicians too are good and helpful as well.
Training, hmmm, I think sometimes once in a year when it comes to the training and is normal.

No, for that one No. I don’t even remember the last time there was a refresher training. For the lab staff is more than 3 years. It’s been a long time. That one doesn’t come often.

For the training aspect, we sometimes lack information. Information about TB always keeps changing; tomorrow you hear this, today you have another thing altogether. So, we urge the TB organizers, especially the Region or the District to update us on information that come into the system for us not to lack.

We sometimes have training once in a year.

For the past three years, we have had no training for the lab staff; can’t remember the last time refresher training was organized.

We sometimes lack information on TB and therefore urge TB organizers to update us with new information on TB. What we read on the internet is not same as information that exist at our TB.

TB training programs are organized less frequently for those involved in providing care to TB clients, although such programs enhance their progress of work. Besides, those working within the laboratory are more disadvantaged in terms of having opportunity to attend training workshops. Whereas the nurses had attended at least two to three training sessions within the year, members of the health team from the laboratory had attended none within the last

Inadequate training sessions on TB elude health professionals of current information that may be critical in managing this condition effectively. Also, disparities in training sessions for units may negatively affect the overall outcome of teamwork. For instance, the diagnosis and of treatment of TB involves a multi-disciplinary health team such as nurses, doctors, biomedical scientist, radiologist etc. Thus, focusing on the training needs of only a category of the health team

Staff working within TB units are less exposed to TB training programs despite the positive outcomes associated with attending training programs.

More attention is given to the training needs of health professionals such as nurses and doctors compared to other category of health professionals such as the biomedical scientist.

Health professionals consider frequent training as an important ingredient to enhance their professional skills.
that information. When you come to the TB department at times, though you read, you search on the internet and at times you will see information on internet that are not the same as what we have in the department or in the unit. So we lack some information that are new in the system. So we urge them to update us on new things that will come into the TB unit or the TB workplace.

Roughly, let me say for this year, I have been to three training sessions for the mean time. I have attended three trainings but need to be updated. As I have already said, they need to update us on new information that comes into the system because the training also helps us to know more about the work. It helps us to acquire more knowledge about what we are doing in the department unit.

I have attended three training sessions this year, but still need to be updated on new information as this three years. Additionally, staff come across different information about TB in their effort to acquire knowledge through the internet as differences exist regarding information on the internet and what exist at their facility.

while turning a blind eye to the training needs of other category of the health team will not only deprive those disadvantaged of current knowledge needed to improve their performance, but may also cause a break in the sequential process of TB management due to knowledge deficit among these group.

Furthermore, although exposure to current information on the internet may improve their work professional practice, it may also create a state
you attended training? or TB unit so the training is very necessary.

Erhhh, for that I will say it helps the TB unit; because the one that I attended recently known as the E-tracker helped the TB unit to get clients or to capture those who are TB suspects or those presumed to be having are to be treated. We did that training to update the new people who are suspect for TB, let me put it this way to be put on medication and also know the number of people who are coughing, especially those who are coughing intensively because not everybody who coughs has TB; but we normally screen those who cough and that training helped us to know or capture those people who cough as well.

How has it helped you?

is very necessary to help me acquire knowledge.

The E-tracker training which I attended recently helped our unit. It helped us to capture TB suspects or others presumed to be having TB because we screened those who cough intensively in addition to those who cough but not of uncertainty among the professionals regarding what is right or wrong as sometimes such information on the internet are not at par with what has been stipulated within their units.

Subsequently, these happenings may negatively affect their professional practice and eventually compromise the quality of care rendered to TB clients.
For **training**, from **time to time** we go for training at Metro, our **coordinator** calls for meeting and training on the **new things** coming up and when there are **changes** on the forms for report they teach us how to go about that for the **growth** of the work and we have attended **two trainings**.

We have had two trainings with our coordinator in order to be abreast with new things that will promote work growth.

**Materials and logistics needed for provision of TB care** (Medications, regents, registers).

- **Resp #1**: We have reagents and other items to work. However, we sometimes run out of medications because of delays in taking drugs from the polyclinic stores and sometimes we run out of drugs. For **reagent**, our lab guys always have reagent to work with.

- **Resp #3**: Request form for laboratory and sputum container

- **Resp #4**: We have had two trainings with our coordinator in order to be abreast with new things that will promote work growth.

Ooh, I **think** we have all these things except sometimes with **medication**. As I said initially, because of **shortage** of staff at the dispensary, they **don't go** for our medication from polyclinic stores and sometimes we run out of drugs. For **reagent**, our lab guys always have reagent to work with.

**Materials and logistics needed for provision of TB care** (Medications, regents, registers).

- **Resp #1**: We have reagents and other items to work. However, we sometimes run out of medications because of delays in taking drugs from the polyclinic stores and sometimes we run out of drugs. For **reagent**, our lab guys always have reagent to work with.

- **Resp #3**: Request form for laboratory and sputum container

- **Resp #4**: We have had two trainings with our coordinator in order to be abreast with new things that will promote work growth.

Access to medication was a challenge in the previous year, but that has not been the case this year. However, sputum containers and other items are not readily available. In such instances, TB care providers aim at offering prompt services to TB clients who visit the facility suggests that duration of time spent in receiving care at the facility is a matter of concern to the care provider.

However, logistics such as laboratory, X-ray etc are not readily available. In such instances, TB care providers aim at offering prompt services to TB clients who visit their facility.

Clients sometimes do not get basic materials needed for vital TB investigations.

Inadequate essential logistics such as sputum containers and stationary.
somebody to the lab for the sputum sample and they will tell us the person cannot do the sputum. Why? Because there is no sputum container, so that is also a very big challenge for us as well as the request form, the form that we use for sputum. Recently they changed them because the one that we had were not enough and even, the one that we are using now is not in the system so we need to do or run copies or the facility has to do copies for us, because if you want to screen people or you need some for the screening, unless we use our own money to run copies and that also is a big challenge for us, not to talk about the medication. For the medications we don’t have a problem with that, it was last year that we were facing some little challenges about the medication. There was shortage on TB medications, but for this year we have not for sputum is a challenge we encounter. We don’t have enough forms and have to run copies, sometimes using our own money. Access to medication is not a problem, but that was a challenge last year compelled to improvise and resort to other alternatives which include; running photocopies. At times, care providers are compelled to use their own money in running photocopies in the event that the facility’s photocopier is malfunctioning. Also, in addition to ensuring that the facility does not run out completely of items by constantly checking on stock, prompt care is offered to clients who visit the facility. containers which are not readily available may compel TB healthcare providers to either improvise or delay initiation of diagnostic procedures even when medications are available. Besides, it amounts to abuse of human right in the context of right to healthcare as which is considered a universal human right. Such inadvertent practice can have dire consequences on the health of the patient and also predispose others within client’s community to acquiring TB. This items (X-ray and laboratory forms) delay initiation of TB treatment.

Lack of medication at TB centres which hitherto was a challenge in previous years is a thing of the past Medications for TB treatment are always available, but logistics such as stationary for X-ray and lab request is a challenge among the health units offering care to TB clients.

Inadequate logistics vital to initiate TB care poses a health threat not only to the client but also the community at large.

Denial of treatment on
encountered such a problem. Everybody who is positive or who is eligible for TB has medicine to take.

The **chairs** are enough and comfortable. It has a foam within so when they sit on it they don’t get tired. Also, we don’t waste much **time** because most of them are **workers** so we attend to them on time for them to also go to their various workplace.

We don’t have any problem with the drugs and for the **forms** we sometimes get some from Metro but they are not enough. So when we get one, we run photocopies. However, when the facility’s photocopier is not working, we go outside to run copies.

For us, most at times we **have all the items** we need. I’d say all the time because, with the exception of forms which are not enough, we do have enough drugs, chairs and attend to clients on time, since most are workers.

Resp #4

We often have **needed items all the time**. We check our

is certain to happen especially in instances whereby the client may be suffering from the condition, but is denied initiation of treatment due to lack of necessary logistics that will pave way for treatment to commence. Despite, these challenges, some TB health care providers put in measures to ensure that they do not run out completely of basic items needed for TB care.

Some TB health care providers keep surveillance on the few items available to them by putting in request whenever they realize they are running out of stock.

I’d say all the time because,
we normally do check our stocking levels. So when we check and realize that what we have cannot last for one week, two weeks or one month then we make a request, arrange and pick some so all the time we have reagent.

Supervision

No, for Regional level, I think since last year they have been here once but for District Yes, they have been coming and I think is okay.

We have the Greater Accra Regional external quality assurance (EQA) team that comes quarterly for quality assurance and then supervision in the lab. For this year, they came only once, that was a weekend, but for previous years, we met them 4 times, they come and then go. But this year, Regional supervisors have been to the facility once this year, but previously, the quality assurance team from the region visited every quarter of the year.

Supervision from the regional level has been done only once this year in comparison with supervision from the district level which has occurred more than once.

Supervision from both the regional and district level is not impressive as the number of visits to these facilities are woefully inadequate. Such negative attitude towards supervision may affect formulation and amendment of policies where necessary, and thus negatively have an effect on Supervision of TB services is key for evaluation and assessment of services.
Supervision, I will say it is **good**, because every work that you do or any department that you belong to you have a **superior**. The team, that is our leaders or heads are also doing great because if we **lack** any item or lack any information, they try as much as possible to get it for us. From the **region** to the **district** facility level, I will say, supervision is **okay** because they are always looking for information or they come in to supervise the work that we are doing whether you are **improving** or not improving.

**Once a while**, personnel from the Regional and National office come around to supervise us. Those at the **District Metro** also do come for supervision and **Supervision at the regional and district level is okay** because they assess our level of improvement. At the facility level, supervision is good and great as superiors in addition to supervising subordinates, ensure that their assistants do not lack items or necessary information.

**Quality of TB care.** For instance, if they are in constant touch with healthcare providers who offer direct services to TB clients, they will be privy to information about their challenges and evaluate their practice and provide the necessary feedback if it is in line with international standards.
How do you recognize that someone has TB

Patient complains of persistent cough, fever, let me say blood in sputum, weight loss more than 10 kilos.

For someone who is having TB, the person should cough more than 10 days and then, weight loss, sweating in the night, producing phlegm as well.

Sign and symptoms of TB, we have the major signs and the minor signs, always people don’t have more information about the TB, because people also think that when the person is coughing is when the person can be declare or can be diagnosed TB, but is not so and also we have

Resp #1
Complains of fever, cough, blood in sputum and weight loss of 10 kilos may help one to know a person has TB.

Resp #2
Cough, sweating at night and weight loss of 10 kilos may indicate that a person has TB.

Resp #3
The major signs such as persistent cough for a month or more, sweating at night and weight despite eating well. In addition, minor signs such as dizziness and headache may also be an indication of TB.

Healthcare providers directly involved in proving care to TB patients are able to recognize the early signs and symptoms of TB. This is very essential as a basis for care providers to carry out further assessment to confirm the presence or absence of the disease through implementation of the necessary pragmatic interventions.

TB care providers are well informed about the signs and symptoms associated with TB.

Recognizing early signs and symptoms of TB helps in averting the spread of the disease through implementation of the necessary pragmatic interventions.
types of TB but all the types of TB has the same signs and symptoms especially if the person sweats at night or sleeping under a fan and at the same time sweats all over the body or the bed sheet or the pillow, it a big major sign and symptom of TB and the person cannot do anything, when the person walks small he becomes so tired it means stress and shortness of breath also seem as a major sign of TB. When the person cough and if the person have the PTB that is Pulmonary TB and when the person cough more than two weeks even a month or three month is also a great sign of TB but with the minor ones is like you have the dizziness, weight loss too is also one major sign because the person may say oh, I have been eating, I eat but still am not gaining weight, if we see that there is a having TB. closer to the client.
problem and the person breath is not persistent or is not continuous, the person breathes for 30 seconds before another one comes is also a great major sign of TB.
So when we see all this, fever, we mention fever because the person will also experience fever, a lot of sweat and weight loss and all the sign and symptoms show that the person is getting or knocking the door of TB. So for that if you see any of these signs then you run quickly to any nearby facility for examination.

Client presents with some signs and symptoms such as excessive cough for two weeks or more than two weeks, weight loss, sweating. When you see these signs you take the client to the lab for further investigation before you can

Resp#4 Excessive cough for weeks, weight loss, and excessive sweating may indicate that a person has TB, but this needs to be confirmed from the lab.
conclude the person has TB.

What do you do for the client when you recognize that he/she has TB?

Hmm, I counsel the person, make the person go for lab and when the person tests positive we do home verification and then we start treatment.

Resp #1

Client is counselled and when laboratory results is positive, treatment is started in addition to home verification.

Resp #2

They are assisted by the DOT nurses to fill the laboratory forms and educated on how to produce quality sputum for the laboratory investigation. This is done by telling them to breath in and out for three times, but emphasis is made that the third breath should be accompanied by sputum rather than saliva. Previously, three samples immediately clients are suspected to be having TB, they are counselled together with their families. Additionally, people in their household are screened. For confirmation of TB, they are educated on how to produce quality sputum after which the produced sputum is sent for laboratory investigation. Depending on the outcome of results which is often ready within two hours, the TB health care providers attach much significance to counselling TB patients and their relatives on treatment, and preventive measures vital in halting the spread of the disease. Such practice may afford the health care providers to attain maximum cooperation from the clients and their family. In addition, ensuring that laboratory results are ready within a short period of time may suggest that biomedical scientists provision of counselling services to TB clients prior to confirmation of diagnosis and commencement of TB treatment is paramount to TB health care providers.

Biomedical scientist provide prompt services to clients who visit their unit to undergo TB test.

Administration of TB medication is guided by laid down protocols.

Home verification is carried out at clients residence to identify others who may be
now, we let them produce three. We let them produce on the spot, then early morning. We educate them that, when they wake up in the morning, they should rinse their mouth, no brushing of teeth, no chewing of sponge then they produce another one for the early morning then they bring it to the lab. Then we when they come, they do another one and on the spot the second day. So we have 3 samples but currently, the protocol we are working with, they produce only 2 samples; one on the spot one, and the early morning one. With gene expect in the system, they produce only one and then we use the gene expect to do it for them, so it all balls down to educating the clients to produce quality sample for you not saliva. Then when they produce the sample, then we work on it and give them the results to go back comprising of on the spot sample on the first day of attending the lab, early morning taken at home and another sample taken when client is submitting the early sample taken at home. However, two quality samples are now requested in accordance with laid down protocol.

recognize the essence of providing timely laboratory results to inform onset of treatment. Following this, commencement of treatment based on outcome of result imply that TB healthcare professionals are well informed of when to initiate treatment.

necessary medication is administered by a clinician according to client’s weight.

having TB following outcome of diagnosis.
When we see someone having all these signs and symptoms and the person is coughing as well, you screen the person, you let the person do the investigation asking the person a few question concerning the, what the person is experiencing so you ask for the duration of the cough, ask of the fever and the sign and symptom of TB then you let the person run the sputum test. So if the person is able to bring out the phlegm and does the test, in two hours, the test results will be ready. After that you send the person to the Doctor or the TB clinician to also observe for necessary measures to be taken.

We first of all counsel, we advice on Do's and Don'ts,
inform them of the **duration** for medication, which is six months, you take medicine in the morning before food. First of all we check the **weight** of the person and give medicine according to their weight. And when the person arrives at the unit we go to or visit the **house** for verification and advice the family as well. The infected person should always cover his mouth when coughing and should not spit phlegm in open spaces.

Who are those involved in the care of persons with TB?

The nurses, laboratory technologist, volunteers, their family members as well the District Health Metro Team.

Caring for persons with TB requires a combination of efforts from various health professionals. This therefore may indicate that, clients care is likely to be compromised in Treatment of TB involves a multidisciplinary health team who complement the work of each other to arrive at a common goal.

Treatment of TB is not a single step approach but involves series of steps.
For that one, we have the **nurses**, of course from the consulting room, the **Doctors** are there; they will write the request because the patient or the clients normally end up in the consulting room where they **describe** their problems they are having and the Doctor will write their lab request that will come to us. So they are part of the **team** that helps us to work, then the nurses as well such as the Community Health Nurses or like the, I can’t really specify which group, but I know the nurses that help, such as the DOT nurse. The DOT centre is made up of nurse that gives the treatment and things, and then they **monitor** the clients, then we support them with the **microscopy** when someone is positive and they follow up. We are able to **know** whether the person is complying with the **drugs** or there is resistant here and there, so in the

The doctors who write the laboratory request for the clients as well as nurses such as the DOT nurses, the community health nurses and those in the consulting room help. The laboratory technologist also provides support in terms of running the necessary laboratory investigations such as microscopy for TB positive clients as a follow up measure to know compliance to treatment or otherwise drug resistant.

The absence or failure of any member of the team to provide the required services. Additionally, the practice of health care providers requesting for the necessary laboratory investigations prior to treatment and authorizing initiation of treatment based on outcome of lab results implies that health care professionals are guided by laid down protocols.

Provision of professional human resource is critical to providing professional care to persons diagnosed with TB.

Treatment of TB by health care professionals is informed by outcome of laboratory results and other findings emerging from different units within the health facility.
whole work we need doctors and have nurses to support us.

Those who are involved are the unit clinician, am talking about the TB Doctor, the TB DOT nurse and the lab people as well, they will run the lab and after that if the lab is done then the person comes to the unit, the TB DOT unit for us to send the person to the Doctor to be diagnosed or to be investigated further.

Resp #3 The TB nurse and together as well the laboratory staff who run the lab test. The patient comes back to the unit after the lab test and he/she is sent to the doctor for diagnosis or further investigations.

Resp #4 The nurses, the lab technicians who run the test for the first month and sixth month and also rely on to know the treatment outcome, as well as the physician assistant who gives the go ahead to start treatment.
whether they are completed. So far all about it or whether they are completed so for all our treatment outcome we rely on the lab technicians.

How do you monitor their intake of medication? We do DOT, that is directly observed therapy, so every morning they come here and then take the medication.

Resp #1 DOT treatment helps us to monitor their intake of medication every morning at the health facility. In addition to ensuring that health care workers directly involved in TB drug administration look out for desired effects and undesired effects of the medications which is made possible through efficient utilization of DOT, they do well to engage clients relative in the care of their ward. TB care providers at the health facility are responsible for administering medications to TB patients take maximum advantage of DOT to ensure that TB clients take their medication every morning and consistently.

TB care providers responsible for administering medications to TB patients take maximum advantage of DOT to ensure that TB clients take their medication every morning and consistently.

Patients relatives take charge of administering medication to their ward after the first two months of administering medication to TB patients at the health facility on daily basis by TB nurses.
The person’s relatives and because some of them cannot walk their close relations come for their drugs and when is time for weighing they bring them to the unit, we also sometimes visit them. After first two months we run diagnostic test on the patient to see the magnitude of the disease and we do this till six months.

For the drug when they start they come for it here and sometimes we go for home visit to check on them and those who cannot come around we communicate with their close relations on how they will be take the drug.

Before they start with medication we explain for those who can’t walk, their relative come over to take the medications on their behalf. Other times, we do home visiting, run diagnostic test for them for six months and communicate with them to understand the need for them to desist from hard liquor and smoking during the treatment phase.

We make provisions for those who are unable to come in person to receive TB treatment by allowing their relatives to take the medications for them on their behalf. In addition, we provide TB services to them at their doorstep through home visits and educate them on hard drugs or substances to avoid whiles on treatment.

For ensuring that client take their medications consistently as required. We make the role of patients relative in TB treatment cannot be underestimated and for that matter client’s relatives are key to the successful treatment of TB. This therefore implies that TB care providers work hand in hand with client’s relative and accord them the needed respect to gain their cooperation.

Aside this, the consideration of allowing clients relatives to take medication on their wards behalf in combination with home visits to clients who are unable to visit the TB care providers who administer TB medications provide valuable information about the medication to the client.

TB care providers monitor the therapeutic effects of the medication as well as adverse effect of the prescribed TBS drugs.

TB healthcare providers put in proactive measures to reach out to all who need or require TB treatment.

TB health care providers offer valuable information to TB patients as way of helping them to improve their health.
everything about the drug for them to understand and the drug is given according to your weight so when we weigh you, you might take. The drug is taking at 6am then you eat at 7am. When taking this drug, you are not supposed to drink any hard liquor, smoke. They understand and take the drug but some are stubborn and with such people we pamper them and handle them with care.

We do DOT, if we say DOT it means Direct Observation Therapy because the first two months of the TB treatment, the person needs to be observed every morning because the medicine is taken once daily. So every morning, the person needs to take his medication, so the person reports in the morning, we monitor their intake of medication every morning, monitor the effect of the drug and engage their relatives to monitor the intake of medication by client whiles at home. To achieve Effective Application of DOT approach facility for justifiable reasons ensures that people who need treatment are not denied access to treatment. Also, TB healthcare providers place much emphasis on educating TB patients on drugs or substances that are likely to interfere with their medications.
give the person medication for the person to take after that the person leaves. We do that because we want to know if there is some drug effect about the medicine so we wanted to know if the person is doing good or there is something wrong with the person that is why we do DOT as to identify the challenges the person is going through. We continue the medication for the third and the rest of the months because some take it 6months and some take it for a period of 8months and even more than that. So if the person is taking the DOT for the first 2months, the rest that is the continuation is then given to someone who supports the client at home, that is the one who takes care of the client or the client's relative or anybody who is closer to him. You just give the person few of the medication for like a week this, the medication is given to them in smaller quantities. This is however done after the first two months of receiving medication every morning at the health facility. Following this, clients care taker at home continues with it from the third month, through to the sixth month, eighth month or more depending on treatment duration. makes it possible to monitor the intake of medications for patients diagnosed with TB during the course of treatment.
or two weeks for the person to observe the client takes it every morning until the period of the time.

It is difficult, because TB treatment is free so they think that, some of them think that is a bother. You need to educate them over and over for them to appreciate that I have this infection and I can give it to any relative of mine closer to me. So then, they will appreciate, but not all of them will accept it on the first day and then will want to comply with all the instructions.

Monitoring clients intake of medication is uneasy because they are provided with free medication and do not how they predispose others closer to them to acquiring TB. In addition to being unaware about that TB is contagious, some clients do not value medication which is administered for free in some clients lack awareness about the health implications of having TB. Some clients underrate the essence of taking medications which is administered at no cost.

How do you evaluate the treatment outcome?

Nurses do home verification, contact tracing and stuffs and the lab guys also run out our sputum for us and the pharmacist also go for our medications and the Doctors see to them if they have

Resp #1

Through home verification by the nurses, assessment of client by the doctors and sputum test done by the lab help in the outcome of TB treatment is based on evaluation of results from the laboratory unit and X-ray results. Without conducting laboratory investigations, chest X-ray and other vital assessment, it will

Some vital investigations including sputum test and chest X-ray are carried out by the health team tasked with the responsibility of providing care for TB patients in
extra problems.

It is all depends on the lab, when the person takes the drug for the six month and completes. In the sixth month, the person goes to the lab and when the person returns from the lab and his sputum is negative as the gene-expect then it means it X-ray that can determine if the person has TB. So when it six months apart from the x-ray we do sputum test as well and when the result is negative then we know there is nothing but when the person is positive after the second month we will do the test, the fifth month same and at the end of month six when we confirm everything is negative then we know the person is cured. Then we stop the intake of the drug.

After completion of medication, the results of the sputum test done by the laboratory technologist coupled with the chest X-ray results help us to know whether the person has TB or not.

The various results from the Resp #2 and Resp #4 Both the chest X-ray

the evaluation of treatment outcome done by the nurses and home verification by the doctor.

be impossible to establish that TB treatment has been successful. This implies that a comprehensive health team comprising of the laboratory technologist, nurses, doctors and X-ray technician play crucial roles in the determination of TB treatment outcome TB.

Evaluation of TB treatment outcome is based on the combined roles of health care professionals who provide care to TB patients.
lab and the results of the chest X-ray is very important. Through this, we can tell that the patient still has TB or the disease is no more present.

For you to know that the person has been cured, you have to let the person go to the lab for his sputum to be checked and do a chest X-ray as well. This is what helps us to know that the person has recovered or not.

What is the general attitude of patients towards treatment? Ooh, for majority of them I will say they cope and then adhere to whatever we tell them but then however we have one or two clients who wouldn’t adhere to what you tell them, but in general majority comply.

Not encouraging, because TB treatment is free they don’t see the need. You have to

Resp #1

Majority of them comply and cope with treatment whiles others wouldn’t adhere to treatment.

Although those who adhere to treatment recover from their illness, it is difficult for TB clients to start treatment and take their medications consistently due to their misconceptions about their illness.

Decision of TB patients to start TB treatment is influenced by their understanding about the condition. Whereas some clients have positive attitude towards TB treatment, others Initiation of TB treatment by most clients is based on their socio-cultural beliefs about the cause of TB.

Resp #2

Their attitude to treatment is not encouraging as they

Some clients have positive attitude towards treatment whereas others are unwilling to accept treatment unless the symptoms is too
talk and talk before they finally see the need to be treated. Even with that one, taking the medication is a problem. They are sometimes difficult to understand. I ask myself, is it because treatment is free or what? You cannot understand why the act this way.

For the attitude everybody, you see we have different kinds of cannibals, you see some are serious about their medication and some too unless you chase them with the medication and some too you call and they will be giving excuses, some are not even found and when they come many of them think the TB sickness is a spiritual because the way they will feel the sign and symptom and how they will go through pain, they may think is a spiritual and find it difficult to disease. understand the need for treatment and also take their medication, may be, because treatment is free.

Clients behave differently based on what they think is the cause of the disease. Those who think TB is spiritual go to the prayer camps or shrine, are not serious about their medication and also difficult to find. For the few who take their medications consistently for six months, they get better and come have false misconceptions about the disease.

Besides, socio-cultural beliefs about the cause of TB makes it difficult for clients to accept treatment at the hospital and therefore resort to traditional treatment at the shrine or prayer camps. Such practices may predispose them to inhuman treatment, worsen their condition and also predispose others to acquiring the infection.

The practice of some clients seeking treatment at prayer camps and shrines rather than the hospital poses a health threat to those people that they seek treatment from.
some people end up at the prayer camps or mallams or shrine but the few ones that believe that the medicine can get them better, they take the medicine and is like a miracle to them and is like magic. By the grace of God anybody who takes the medicine consistent for the six months without defaulting, they are the ones that have, let me say they are the ones that always come to say thank you to us or they see it as magic to them. There is a, I read a book and they said if you take the medicine for the six month without defaulting, there is a probability that the TB will not even come again but those who take one and they default like two days or even a week they don’t remember they have something or a medicine to take, those people normally complain have small small complains concerning over to thank us.
cough and if you take the medicine consistent then you are free or you will be free from TB.

You need to educate them over and over for them to appreciate that I have this infection and I can give it to any relative of mine closer to me so then they will appreciate but not all of them will accept it on the first day and then will want to comply with all the instructions. For others they are willing to start treatment when the symptoms is too much for them, especially the cough.

Consistent education and excessive cough helps them to accept and comply with treatment. TB clients need to be educated well to enhance their understanding about TB and take medication as required of them. Education serves as an avenue to reach out to TB patients for them to understand the need to readily accept and comply with treatment. Constant education is key in promoting adherence to TB treatment.

How do patients value the treatment offered to them? Hmmm, since we do counselling and other things for them they accept it and see improvement like within two weeks to a month and in fact they don’t joke with the

Counselling services offered to TB patients helps them to accept and take medications which they see improves. Despite that TB medications are potent in curing the disease, it is less valued among some patients and Adherence to prescribed TB medications relieves TB patients of their signs and symptoms associated with TB. Clients who adhere to TB treatment regimen are relieved of signs and symptoms associated with TB.
medication.

Not all of them value it, as said earlier on, because TB treatment is free so they think that the medications are not good. Some of them think that you are bothering them. Sometimes to, those who take the medications realize that their condition have improved. They become happy and thank the nurses.

Ohh, when they finish the treatment, some see that, initially if the person comes to the hospital with chest pain or severe cough and after the treatment within, not even after the treatment even in the period of the treatment the person come and we ask how are you doing, they say oh now am doing good, I can see at first I was not able to do this but now am

Resp #2

Although, those who take the medication see improvement in their condition, others do not value the treatment because it is free and consider it as not good, but rather a bother.

Resp #3

Those who take the medication see improvement in their condition and understand that it is works perfectly. This helps them to know that TB is not spiritual.
doing this, they have seen improvement. those people testify that the medicine is good and moreover it is not juju or spiritual aspect, so those who take the medicine they know that the medicine works perfectly for TB and they are doing good.

Yes, they value the treatment and we explain to them that the government takes charge of their drugs for them to get it free, for instance anyone who takes three daily we tell them that is thirty dollars a day so when we multiply it by six months you cannot pay when the government asked you to do so. For the drugs they value it very well.