

DEBRE MARKOS UNIVERSITY
COLLEGE OF HEALTH SCIENCES
DEPARTMENT OF PUBLIC HEALTH

ASSESSMENT OF QUALITY OF DIRECTLY OBSERVED TREATMENT SHORT COURSE AND ITS ASSOCIATED FACTORS AMONG ADULT TUBERCULOSIS PATIENTS IN EAST GOJJAM ZONE, NORTH WEST ETHIOPIA, 2025

BY:

ATALAY NIBRET (BSC IN PUBLIC HEALTH)

ADVISORS

- MULUKEN TESHOME (ASSISTANT PROFESSOR OF EPIDEMIOLOGY AND BIOSTATISTICS)
- YIHALEM ABEBE (Ph. D)

SEPTEMBER, 2025

DEBRE MARKOS, ETHIOPIA

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APPROVAL OF PRINCIPAL INVESTIGATOR

I, the under signed, declared that this is my original work, has never been presented in this or any other University, and that all the resources and materials used for the thesis work, have been fully acknowledged.

- ✓ Name of student: Atalay Nibret Signature:_____ Date: 26/9/2025

  Email. atalaynibret12@gmial.com phone 0910078017

- This thesis has been submitted for examination with my approval as the student thesis work advisor.

  - ✓ Name of main advisor: Yihalem Abebe Signature:_____Date: 26/9/2025
  - ✓ Name of coordinator: Muluken Teshome Signature: _____ Date: 26/9/2025
  - ✓ Evaluater Yilkal Tafere Signature  Date: 10/10/2025
  - ✓ Evaluater Moges Wubie Signature:  Date: 30/01/2018

- This thesis examination result is correct and based on the given evaluation criteria
  - ✓ Name of external examiner _____Signature: _____Date: _____
  - ✓ Name of internal examiner _____ Signature: _____Date: _____
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ACRONYMS AND ABBREVIATIONS

CDC - Centre for Disease Control

DHS - Demographic Health Survey

DOTS - Directly Observed Short Course Treatment

EDHS - Ethiopian Demographic Health Survey

ETB - Ethiopian Birr

HC - Health Center

HCW - Health Care Workers

LMICs - Low- and Middle-Income Countries

M.TB - Mycobacterium Tuberculosis

MDR-TB - Multi –drug Resistance Tuberculosis

mWRDs - Molecular WHO Recommended Rapid Diagnosis

RR-TB - Refampcin Résistance Tuberculosis

SPSS - Statistical Package for Social Science

SSA - Sub Saharan Africa

TB - Tuberculosis

TPT - Tuberculosis Preventive Therapy

WHO - World Health Organization

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ABSTRACT

Background: Quality healthcare for TB means providing effective, safe, timely, and equitable care that is patient-centered and respects their dignity. Tuberculosis control measures are limited by the quality of care provided at the local level. Even though the prevalence and the impact of TB in East Gojjam were high, the quality of care of DOTS TB patients in this area is not addressed.

Objectives: To assess quality of directly observed treatment short course of tuberculosis and associated factors among adult tuberculosis patients in East Gojjam zone, Ethiopia, 2025

Method; Institution based cross-sectional study was conducted among 632 adult tuberculosis patients selected by systematic random sampling technique. Data were collected using structured questionnaire, observation and record review and the data analysis was performed by SPSS software version 25.0**.** Bivariable binary logistic regression analysis was computed to assess the presence of association between dependent and independent variables. Multivariable logistic regression analysis was employed to control the possible confounding effect and assess the separate effects of the variables. The strength of association was reported using adjusted odds ratio along with 95 % confidence intervals.

Results: The overall satisifaction level of patients was 51.3% (95% CI = 47.4 – 55.1%). Age (AOR = 3.8, 95% CI = 1.8 – 8.0), marital status (AOR = 2.2, 95% CI = 1.3 – 3.8), educational status (AOR = 3.8, 95% CI = 1.8 – 7.8), monthly income (AOR = 3.4, 95% CI = 1.7 – 6.6), (AOR = 6.2, 95% CI = 2.8 – 13.7), period on TB treatment (AOR = 5.2, 95% CI = 2.9 – 9.3), type of helth facility (AOR = 1.9, 95% CI = 1.2 – 3.1), accessibility of TB clinic (AOR = 3.2, 95% CI = 1.8 – 5.6), presence of visit cost (AOR = 7.6, 95% CI = 14.0 – 5.5) and waiting time (AOR = 2.5, 95% CI = 1.2 – 5.2) were significantly associated with satisifaction.

Conclusion and recommendations: The magnitude of patient satisifaction was low. age, marital status, educational status, monthly income, type of health facility, accessibility of TB clinic, presence of visit cost and waiting time to get service were factors significantly associated with patient's satisifaction. In order to improve quality of sercice, appropriate interventions focusing on patient's characterstics, structural and process factors should organized and implemented

Key words: TB patients, DOTS, Quality, East Gojjam Zone, Ethiopia

1. INTRODUCTION

1.1 Background

Tuberculosis (TB) is one of those chronic infectious diseases affecting thousands of people in different corners of the globe(1).Tuberculosis (TB) is caused by Mycobacterium tuberculosis (MTB). It typically affects the lungs (pulmonary TB) but can affect other parts of the body as well (extra pulmonary TB). The disease is spread via droplet infection when people with pulmonary TB expel the bacilli while coughing, sneezing, talking, etc. Without treatment, mortality rates are high. Treatment using combinations of anti-TB drugs, developed in the 1940s and 1950s, can dramatically reduce mortality rates. Despite the availability of highly efficacious treatment for decades, the same document argued that TB remains a major global public health problem. Almost one-third of the world population is infected with M. tuberculosis. TB is the second leading cause of death from an infectious disease worldwide, after HIV. It kills more than five thousand children, women and men each day (2).

The quality of TB care in both the public and private sectors falls short of international standards in many high burden countries(3). Quality healthcare for tuberculosis (TB) means providing effective, safe, timely, and equitable care that is patient-centered and respects their dignity, while also addressing social and economic factors that influence TB(4).
Tuberculosis control measures are limited by the quality of care provided at the local level. Providing a quality and timely care for patients with TB is crucial in prevention and control of the disease

High-quality diagnosis and treatment of TB care ; reduce the suffering and socioeconomic burden associated with TB; protect poor and vulnerable populations from TB; and support development of new tools and enable their timely and effective use; pursue high quality directly observed treatment (DOTs) expansion; address TB/HIV and other challenges; contribute to health system strengthening; engage all care providers; empower people with TB; enable and promote research (5).

This Strategy was linked to the new global targets for reduction in TB cases and deaths that were set for 2015 as part of the Millennium Development Goals (MDGs) and the STOP TB partnership. Prior to the COVID-19 pandemic, many countries were making steady progress in

tackling tuberculosis (TB), with a 9% reduction in incidence seen between 2015 and 2019 and a 14% drop in deaths in the same period. High-level political commitments at global and national levels were delivering results. However, a new report from WHO shows that access to TB services remains a challenge and that global target for prevention and treatment will likely be missed without urgent action and investments(6).

Ethiopia was ranked fourth among the 30 high TB, HIV and MD –R TB burden countries in the world in 2019. In 2019, the best estimated incidence and prevalence rate of all forms of TB in Ethiopia were 164 per 100,000 and 237 per100, 000 respectively.

The COVID-19 pandemic threatens to unwind the gains made over recent years. The impact of the pandemic on TB services has been severe. Data collated by WHO from high TB burden countries show sharp drops in TB notifications in 2020. 50% drop in TB case detection over 3 months could result in 400 000 additional TB deaths this year alone. Now a days to mitigate the impact of COVID-19 on TB, an integrated TB/COVID-19 Screening, testing and management algorithms have been recommended to be implemented at health facility and community settings in Ethiopia(6).

1.2 Statement of the problem

Tuberculosis programme emphasize the need to increase the access of quality DOTS by expanding its diagnostic and treatment service in line with the increasing number of public and private health facilities. Directly Observed Treatment, Short course Strategy launched by WHO in 1994, which is the brand name of the internationally recommended strategy for TB control. The DOTS strategy ensures that infectious TB patients are identified and cured using standardized drug combination with five key components those are: i. Government commitment to ensure sustained and comprehensive TB control activities, increase human and financial resources and make TB control a nationwide priority; ii. Case detection by molecular WHO-Approved rapid diagnostics (mWRDs) is recommended as an initial test for TB diagnosis and detection of rifampicin resistance instead of smear microscopy or culture.iii. Standardized short-course chemotherapy for all diagnosed cases of tuberculosis under proper case-management conditions, including direct observation of treatment; iv. Regular, uninterrupted supply of all essential anti-tuberculosis drugs and laboratory supplies; v. Standardized recording and reporting

system that allows assessment of case finding and treatment result for each patient and of the tuberculosis control programme performance overall(7).

One of the most important components of DOTS is the direct observation of treatment, which means that a health worker must watch the patient taking each dose. Direct observation of treatment is important to: · Ensure that patients take the correct treatment regularly; · Notice rapidly when a patient misses a dose, find out why, and solve the problem; · Monitor any problem that the patient may experience with the disease, the treatment or other condition(7).

In order to reach the national objectives and targets, the TB and Leprosy Control Program of Ethiopia is aligned with the globally recommended Stop TB Strategy, The targets of an effective TBL Control Programme are: i) To achieve and maintain detection of at least 70% of new sputum smear-positive TB cases; ii) To achieve and maintain a cure rate of at least 85% among these patients (through DOTS); Treatment of Tb has two main phases: intensive phase and continuation phase. The intensive phase is the phase where three or more drugs are taken for eight weeks for new cases and 12 weeks for re-treatment cases with the assumption of making the patient non-infectious and minimize danger of drug resistance development. Where, as the continuation phase is the phase that follows the intensive phase with at least two drugs for 4-6 month with the assumption of making the patient permanently cured and prevents relapse(8, 9).

Quality is that used by advocates of total quality management (W. Edwards Deming, 1982):“Doing the right thing, right, right way”. It has different dimensions like technical performance, effectiveness of care, efficiency of service delivery, safety, access to services, interpersonal relations, continuity of services, physical infrastructure and comfort and choices. However, the institute of medicine defined quality as the degree to which health services for individuals and populations increases the likelihood of desired health outcomes and is consistent with professional knowledge.

The first model to evaluate health care quality, which was developed by Donabedian, includes the element of: structure, process and output parameters from which inferences can be drawn about the quality of care(10) . He defined structures as, the tools and resources that providers of care have at their disposal and the physical and organizational setting where they work (the way a health care system is set up and the condition under which it is provided), process as the set of

activities that occur within the Health Service Organizations/Health Systems and between practitioners and patients, where judgment of quality may be made either by direct observation or by reviewing recorded information (the activities that constitute health care like diagnosis, treatment, prevention and education) and outcome as the change in patient's current and future health status that can be attributed to antecedent Health care (the changes in individual's health status that is attributed to health care) (11, 12).

In spite of the fact that TB is preventable, treatable and curable globally, an estimated 10.0 million (range, 8.9–11.0 million) people fell ill with TB in 2019, a number that has been declining very slowly in recent years. There were an estimated 1.2 million (range, 1.1–1.3 million) TB deaths among HIV-negative people in 2019 (a reduction from 1.7 million in 2000), and an additional 208 000 deaths (range, 177 000–242 000) among HIV-positive people (a reduction from 678 000 in 2000). Men (aged ≥15 years) accounted for 56% of the people who developed TB in 2019; women accounted for 32% and children (aged <15 years) for 12%.among all those affected 8.2% were people living with HIV. .

The emergence of MDR and XDR TB in many parts of the world, including Ethiopia, is posing serious threat to the control of TB. Drug-resistant TB continues to be a public health threat. Worldwide in 2019, close to half a million people developed Rifampicin-resistant TB (RR-TB), of which 78% had multidrug-resistant TB (MDR-TB). The burden of MDR-TB in Ethiopia is increasing. In 2005 the national prevalence of MDR-TB was 1.6% among new patients and 11.8% was retreatment. Ethiopia is one of the 30 high MDR/RR-TB and TB/HIV burden countries. In 2019, the incidence of MDR/RR-TB in Ethiopia was 0.71% among new TB cases and 12% among previously treated cases. Moreover, four XDR-TB cases were reported in Ethiopia in 2017 and 2018 .The prevalence of MTB in Amhara Region was 11% in all age groups. The Prevalence of all form TB in East Gojjam is 53% ,the pre valence of MDR TB is 27%,thedeath due to TB is 2.8% ,the prevalence of HIV is 1.2%(7, 13).

Even though the prevalence and the impact of TB in East Gojjam is high, the quality of care of DOTS TB patients in this area is not addressed. Therefore the study intended to assess quality of care of tuberculosis and its associated factors.

1.3 LITERATURE REVIEW

1.3.1 Structural quality assessment

Structural measures characterize the resources in the health system, describing the setting in which care occurs and the capacity of that setting to produce quality. It includes professional characteristics, health service characteristics, infrastructures, vehicles, money, organizational arrangement equipments and the surrounding environment .The underlying concept in structural assessment is to decide whether care is provided under conditions favorable for good health care or not and it is actually relatively the easiest method of quality assessment (14). The WHO and FMOH recommended adequate supply of drugs and equipment to be part and parcel of programmatic activities at each level of Tb control program where, health facilities have to order for delivery of Tb drugs and supplies every quarter(7).

A study conducted in Bahiri Dar city administration on seven health institution indicated that the input, all health institutions have at least one DOTS trained health professionals, laboratory professionals trained on AFB except ZH. All health institutions have the latest version of TB manual and on use it, The latest versions of TB register were available and in use in the five healthy facilities only. Flow charts for TB diagnosis were available and in use in three facilities only. All health institutions have all anti TB drugs, but laboratory reagents were not available in one ZC. supervision of TB clinics only 2(28.6%) of them were supervised (15) .

A study conducted in Jima zone, south west Ethiopia indicates that all the health facilities 10(100.0%) under the study had at least one health professional with special training on DOTS, while 5(50.0%) of them had two. All of them had at least one laboratory technician and in 8(80.0%) of the facilities the laboratory technician had special training on DOTS program Seven (70.0%) and 6(60.0%) of the health facilities had adequate toilet and sufficient room for the patient load, respectively. Drug storage was found to be in a very good condition in 2(20.0%) of the health facilities while TB drugs were available on weekends in only 1(10%) of the Health facilities. Five (50.0%) of the health facilities had no waiting area for patients or not sufficient for the patients load, similarly patient privacy was not considered/maintained in these health facilities. None of the health facilities had separate area for sputum specimen collection. In 6(60.0%) of the health facilities patient complaint/ suggestion mechanism is not practiced. The

overall structural quality was graded very poor in 9 (90.0%) of the health facilities, only Jima Health Center graded as marginal with the score of 73 %(16).

A qualitative study conducted in Romagna region, Italy, identified three categories of barriers to effective TB control among which organizational factors; such as the availability of diagnostic services and of sufficient resources were the main one. The WHO ad hoc committee (1998) on Tb epidemic had also identified the following constraints in the control of Tb; financial shortages, human resource problems, organizational factors, drug supply problems and lack of public awareness. Evaluation report of the five year, 1996-2001, program development plan of the TLCP of FMOH indicted that high turnover of staffs at the service delivery level; inadequate supervision by all levels involved in the TLCP; lack of mechanisms or commitment for defaulter tracing; frequent interruptions in the supply of drugs, laboratory utensils and formats and absence of adequate training and IEC materials at the regional levels as the main problems in Tb control activities(17) .

1.3.2 Process quality assessment:

Process quality assessment denotes what is actually done to and for the patients in giving and receiving care. It includes the technical aspects of the provided services like provider-client interaction, availability and use of protocols or guidelines in the provision of care, delay in getting services adequacy of information and the technical competency of the provider. That is to say patient's activity in seeking care and carrying it out and practitioner's activity in making a diagnosis and recommending or implementing treatment(14).

A prospective cohort study conducted in west Ethiopia shows that 223 (68.8%) patients were greeted by provider and 208 (64.2 %) patients participated in part of decision making processes of service delivery. Of the total observed patients 197(60.8%) patients were advised how to take drugs, 195 (60.2%) patients were told when the next follow up will be, 193(59.6%) were advised on the need to comply with treatment, 170(52.5) patients were told when the next AFB wasdone and 194 (59.9%) asked providers about TB drug treatment conditions. Regarding to the facility level, 309 (95.4%) patients were given treatment while providers having tables and chair, almost all patients wait stand to receive treatment and bring water to swallow drug in the TB clinic(18).

And also study conducted in jimma zone indicated that most of the process items were always registered. However address of patients and name of contact person were not registered in 23% and 18% of cases which is very important to trace defaulters or trace them earlier so that they could continue their treatment before defaulting. Overall quality of performance of smear microscopy was graded as marginal with mean score of 0.67 for all cases. The proper number of smear was performed in only 38.3% of the cases. Over all 3 smear microscopy were omitted in 20% of the cases this shows that those cases were not monitored throughout the course of treatment. Timeliness of smear microscopy were observed to be better, mean score 0.97(16).

A study conducted in Tigray region indicated that about 6.8% of Tb patients were put on treatment without any documented evidences(19). Similarly, a study conducted in the SNNPRS, indicated that Tuberculosis registries were incomplete in many cases where; 26.8% of the 239 Tb patients studied were not registered in the Tuberculosis control program, and all progress records were missing in 5.4 % of patients due to immediate defaulting(20). Strong inter-personal relation, which shows trust, respect, confidentiality, courtesy, responsiveness, empathy, effective listening, and communication between providers and patients is one dimension of quality through which a client centered services can be rendered(21).

Similar study conducted in Bahiri Dar city administration shows that 184 (73.3 %) patients were greeted by provider. one hundred eighty seven (74.5 %) patients participated in part of decision making processes of service delivery ; 202 (80.5%) patients were advised how to take drugs,51 (41.6 %) patients were told when the next follow up was,150(59.8%) were advised on the need to comply with treatment, 52 (20.7%) patients were asked by the provider and 49(19.5%)asked providers about TB drug treatment conditions. Regarding to the facility level ,169 (67.3%) patients were given treatment while providers having tables and chair, almost all patients wait stand to receive treatment and 232(92.4%) of patients bring water to swallow drug in the TB clinic(15).

However, a recent anthropological work in West Africa indicated that poor relations between health-care providers and patients resulted in rejection of public health-care systems(22) . Similarly 20 study conducted among the Roma communities living in Western and Eastern Europe found cultural (inadequate communication between the patient and provider) barrier besides, economic (user fees, cost of transport, lost income/time), knowledge (poor knowledge

on part of the providers) and geographic barriers to be the major one in the control of Tb among the study groups(23) .

Additionally, lack of linkages between DOTS and other providers (non-DOTS and HIV care), missed diagnosis and/or lack of referrals by non-DOTS providers, providers' poor knowledge of correct procedures and poor interpersonal communication, poor quality of services (hours, wait time), health providers fail to give adequate information besides cost, distance to DOTS facility and lack of resources including human resources had been the main system barriers in Tuberculosis control(24).

A study conducted in Gambia, indicted that higher defaulting rate was observed among those Tb patients who said they were uncertain that their treatment would not work and among those who incurred significant time or money costs traveling to receive treatments(25).

1.3.3 Output quality parameters

These measure health care performances and include relevant outcomes as survival rate, status of physiologic, physical and emotional health and patient satisfaction. They are end results of the process of patient care and of the timely availability of the necessary inputs(14). According to study conducted in Bahir Dar city the satisfaction of clients with the different aspects of services provided indicates that: 143(57%) were satisfied; in adequacy and appropriateness of working hours; with respect to waiting time 141(56.2%) were satisfied; almost half of the respondents 125(49.8%), were satisfied by the time spent to them by care providers; Satisfaction with regard to cleanliness and Comfortableness of waiting area were 111(44.2%) and 112(44.6%) respectively; satisfaction with cleanliness of TB room and equipments /instruments where TB pts get service were 125 (49.8%) and 129(51.34%) respectively. Meanwhile relatively higher study participants, 201(80.1%) and 173(68.9%) were satisfied with the respect offered by health professionals and measures taken to assure privacy respectively with overall satisfaction of 53.3% (15). A similar study conducted in Addis Abeba shows that patients with TB who were on follow-up of their treatment were following their treatment with dissatisfaction. All of the lost to follow-up patients with TB were dissatisfied with DOTS. Dissatisfaction is one of the causes to deviate from follow-up(26).

Study conducted in Jima zone shows that the overall quality of TB care is graded to be poor and 264(66.0%) of the patients received poor quality of care(16). A similar study conducted in Afar Regional state indicates that higher proportion of patients dissatisfied in the adequacy and appropriateness of working hours, 133 (63.6%), which can lead to service rejections by the patients and defaulting which can be associated with incomplete treatment, treatment failure and drug resistances. However, the majority of respondents 147 (70.3%) were satisfied in the overall services they received(9).

1.4 Conceptual frameworks

Donabedian's model was used to assess the quality of DOTS strategy implementation in health institutions. Three aspects of quality: structure, process and outcome factors were considered.

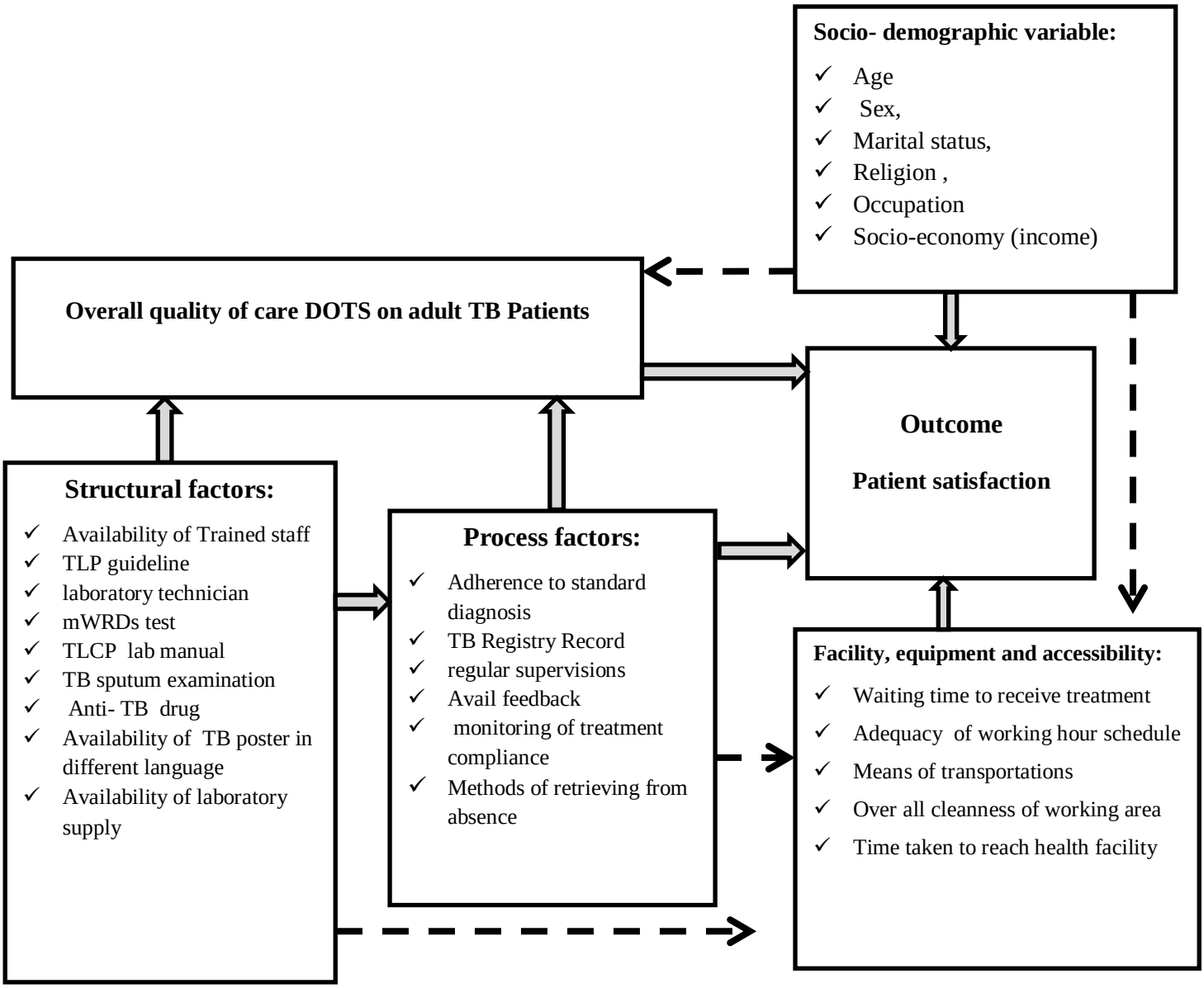


Figure 1: Conceptual frame work of the study to assess to assess quality directly observed treatment short course and its associated factors among adult tuberculosis patients in public health institutions in East Gojjam Zone, North West Ethiopia, 2025

Source: Donabedian A. An introduction to quality assurance in health care, Oxford University Press. New YorkUSA (9, 10, 18)

1.5 Justification of the study

Tuberculosis is presenting new challenges as a global public health problem, especially at a time of increasing threats due to HIV infection, multi-drug-resistant and extensively drug-resistant strains of Mycobacterium tuberculosis and covid -19 . Besides, there has been poor performances achieved in Tb control activities in Ethiopia in general and in Amhara Regional State, East Gojjam in particular, (case detection 47.8 %and Treatment success rate 79.4 %of which 63.5% complete their treatment and 15.8% were cured) below the WHO standard)(13). Quality assessment has been considered as one element of quality assurance, which looks for sources of problems in a system and process. The first model to evaluate health care quality was developed by Avedis Donabedian and includes the element of structure, process and outcome. As per the Donabedian's definition of quality, the ultimate goal of quality assessment in health care program is to assess whether a program possesses the right things (input), is doing the right things (processes) and it leads to the right things (outcome) to happen .Even though a few research is conducted globally and in Ethiopia on the quality of Directly Observed Treatment Short Course of Tuberculosis, the factor that affect the quality of care of Directly Observed Treatment Short Course of Tuberculosis, are low. These studies were so far ten year long and conducted in private health institutions, those are prevalence study .So that this study tried to address the quality and its predictor of Directly Observed Treatment Short Course of Tuberculosis in Amhara regional state, East Gojjam public health institutions by adding variable (molecular WRDs).

1.6 Significant of the study

Assessing the quality of Directly Observe Short-Course Treatment of Tuberculosis can have significant importance in evaluating Tb control activities and in identifying area of improvements for better and effective Tb control strategies and also the result of this study contributes a depth information for policy maker and programmers .In addition to this studying quality of DOTS contribute to improve quality of care for the community and patients by providing evidence based information. Therefore, this study was conducted to assess the quality of Directly Observed Treatment Short Course of Tuberculosis in Amhara Regional State, East Gojjam to identify any gap in providing tuberculosis treatment services and provide baseline information to decision makers, future researchers and program managers.

2 OBJECTIVES

2.1 General objective

- Assessment of quality of directly observed treatment short course and its associated factors among adult Tuberculosis patients in public health institutions in East Gojjam Zone, Northwest Ethiopia, 2025

2.2 Specific objectives

- To determine patients satisfaction level for DOTS of tuberculosis service.
- To identify the factor associated with quality of care of tuberculosis.

3 METHODS

3.1 Study area and study period

East Gojjam Zone is one of zone of Amhara National Regional State. It had 19 woreda, 480 kebeles and a total population of about 2,779013. There were 11 hospitals (nine primary, one compressive specialized and one general) government Hospitals and, 104 Health centers, 423 health posts, and 203 private clinics. Private health institutions were not started DOTS service yet. There were 3003 all form tuberculosis patient on anti- TB drug. Out of those, 1678 adult TB patients were on intensive phase. But 21.4% percent of the government health facilities were providing DOTS. The study was conducted from April 1 to April 30/2025 (27).

3.2 Study design

An institution based cross-sectional study design was employed.

3.3 Population

3.3.1 Source population

All adult Tb patients on the intensive phase of anti -TB treatment in public health facility providing anti –TB treatment service in the study period.

3.3.2 Study population

All adult Tb patients on the intensive phase of anti -TB treatment in selected public health facility providing anti –TB treatment service who fulfilled the inclusion criteria and selected by the sampling technique of the study

3.3.3 Eligibility criteria:

3.3.3.1 Inclusion criteria

- All health facility providing DOTS and have laboratory services (AFB, Gen x-pert), adult TB patient on intensive phase of treatment who were aged 18 and above and take anti TB drugs more than two weeks and above were included.

3.3.3.2 Exclusion exclusion criteria

- TB patient’s very seriously ill and can”t talk and listen during the interview period were excluded.

3.4 Sample size determination and sampling procedure

3.4.1 Sample size determination

Objective I Single population formula was used .i.e.

$$N=za^2P\ (1-P)/d^2$$

Where, P=proportion of desired behavior.

Here P of 53.8% is taken, as a study conducted in Bahiri Dar City ,Ethiopia indicated that53.8% of Tb patients' are satisfied by over all DOTS TB service(15) .

D=allowable error of 5%

CI=confidence interval at 95%, two sided Hence,

$$n= (1.96)^2 0.538(1-0.538)/ (0.05)^2$$

n=382.

The minimum sample size required for the study was estimated to be 382 then by adding 10% for possible non-response rate, a total sample size of 421 obtained. Design effect of 1.5 was used because of we used multistage sampling techniques .i.e.421*1.5

n=631.5

n= 632.

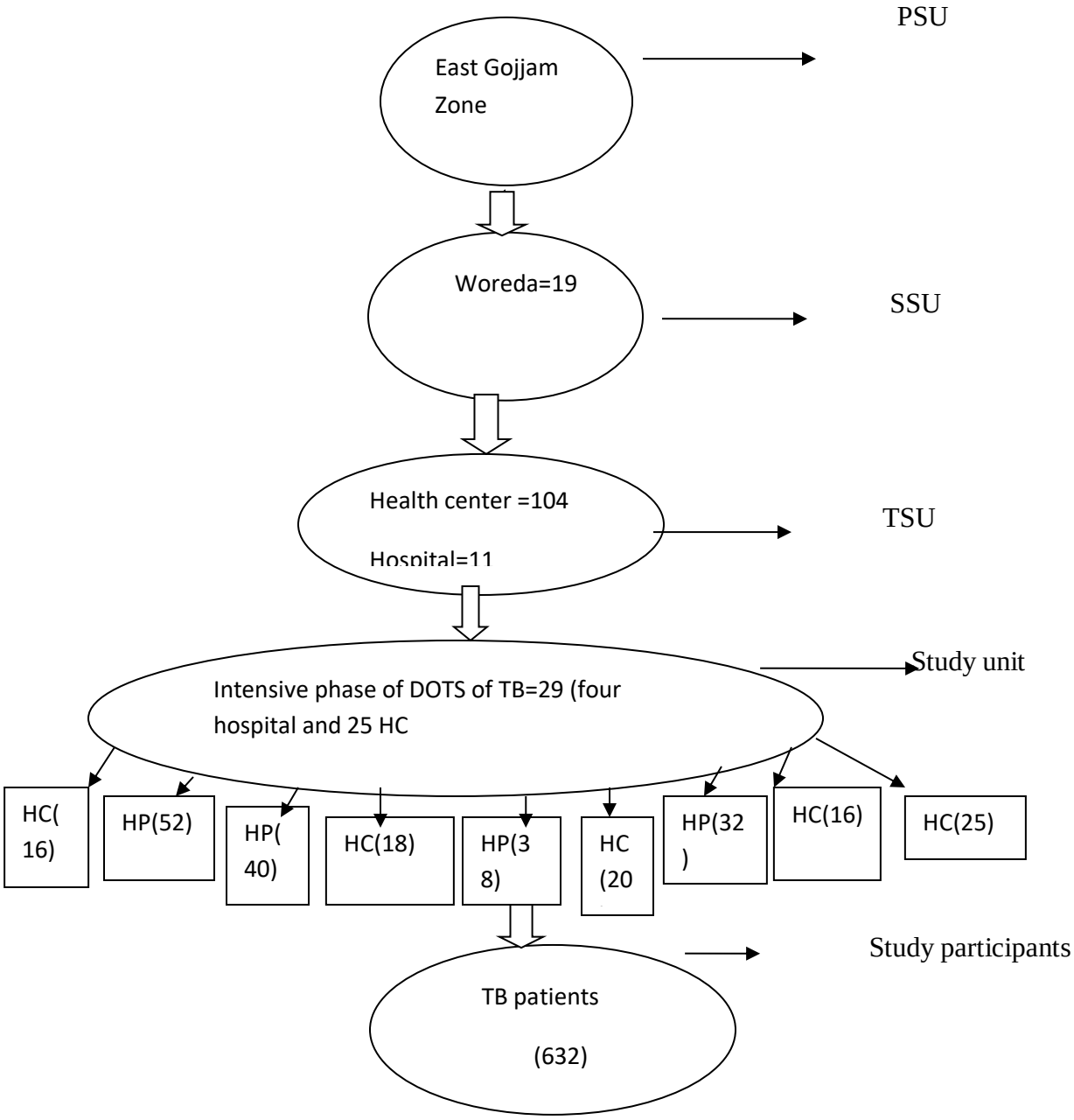
Objective II: the sample size for the second objective was calculated using EPI - Info Version 7. Considering satisfaction with adequacy and appropriateness of working hours, measures taken to assure privacy and good communication): 95% CI, power 80 %, ratio of 1. The final sample of the study was 632 as its was greater than the sample size calculated for the second objective (373).

Table 1: Sample size determination of the study to assess quality directly observed treatment short course and its associated factors among adult tuberculosis patients in public health institutions in East Gojjam Zone, North West Ethiopia, 2025

Factors	Dissatisfaction	Sample Size	Design effect	Non response rate	COR95 %CI	Total sample size	Reference
Satisfaction with adequacy and appropriateness of working hours	70.3%	226	1.5	10%	0.313	373	(9)
Measures taken to assure privacy	40.4%	151	1.5	10%	4.72	242	(15)
Good communication	33%	146	1.5	10%	4.3	234	(26)

3.4.2 Sampling Procedures and sampling techniques

There were a total of 115 (11 of them were government hospital and 104 of them were health center) public health institutions which provides DOTS in East Gojjam zone. The twenty nine health institutions providing DOTS were selected by multistage sampling method from Zone to woreda to health center or hospital and then the study unit selected randomly. Twenty nine health institutions were decided to be taken based on the rule of thumb in sampling for quality of care study, which states, if the number of units are very large (500-1000) take a 10% sample, if it is medium size (100-500), take a 20-30% sample and if it is very small (less than 50), take a 30-50% sample (28, 29). Hence, a 115 health institutions, 25% sample from a sampling frame of 25 health centers and four hospitals are taken. And also health institutions (hospitals and HC) were selected from each woreda proportionally. After selection of hospital and HC study participants were selected by systematic random sampling technique every kth interval . The starting point one to k^{th} interval selected randomly by lottery method.



- HC= Health Center, HP= Hospital, PSU= Primary sampling unit, SSU= secondary sampling unit, TSU= Tertiary Sampling unit

Figure 2: Schematic sampling procedure of the study to assess to assess quality directly observed treatment short course and its associated factors among adult tuberculosis patients in public health institutions in East Gojjam Zone, North West Ethiopia, 2025

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3.4.3 Sample size determination of observation, interview of providers and record review

Tb focal person that works in the twenty nine health institutions (twenty six Health Centers and three Hospitals) were selected purposively in the respective health facilities and were interviewed. A total of 29 TB experts were selected. One TB expert from each health institutions was included. The TB register of each selected health facilities was checked to identify completeness.

3.4.3.1 Record Review (process)

Single proportional survey formula was used i.e.

$$N= Z\alpha^2 P (1-P) / d^2$$

Where, P=proportion of desired behavior. Here P of 88.5% is taken, as a study conducted in Afar (30) indicated that 88.5% of Tb patients' documents are not properly recorded during their treatment.

D=allowable error of 4%

CI=confidence interval at 95% Hence,

$$N1= (1.96)2*0.885(1-0.885)/(0.04)^2$$

N1=245

For reviewing patients' record, 245 patient's records were proportionally allocated to the twenty nine health institutions based on the number of Tb patients' record in the selected health institutions. Then the required patients' record from each health institutions was selected by systematic random sampling where the first patient's record was selected randomly using lottery method.

3.5 Study variables

3.5.1 Dependent variable:

- Satisfaction of patients

3.5.2 Independent variables

- Structure variable:

- Availability of trained health professionals on TB control activities
- Full time staff assignment on TB clinic
- Availability of laboratory technician
- Availability of mWRDs test
- Availability of TLCP lab manual
- Availability of TB sputum examination
- Availability of Anti- TB drug
- Availability of TB poster in different language
- Availability of Laboratory supply

- Process variable:
  - Availability and use of protocols/guidelines in the process of care,
  - Documentations of TB records,
  - Communications provider to patient
  - Availability of regular supervisions
  - Availability of feedback
  - Mode of assessments of TB case
  - Methods of monitoring of treatment compliance
  - Methods of retrieving from absence
- Socio- demographic variable
  - Age
  - Sex
  - Marital status
  - Religion
  - Occupation
  - Monthly income
- Output/outcome variable:
  - Facility, equipment and accessibility factors :
    - Waiting time to receive treatment
    - Means of transportations
    - Overall cleanness of working area
    - Time taken to reach health facility

3.6 Operational definitions

- ***Process quality:*** performing the right procedures like having the proper technical competence and providing the right services was determined by Donabedian's quality assessment in health care model and by record review

- ***Quality of registering unit TB register***: was assessed by assigning a score of 1 for recorded items and 0 for unrecorded items. Maximum attainable score was 1 and minimum score for a record was 0. Percentage score for each record was calculated and quality of medical recording was classified as: very poor (0%–49%), poor (50% 59%), marginal (60%–69%), good (70%–79%), very good (80%–89%) and excellent (90%–100%). Adherence to the recommended schedule of sputum smear microscopy was assessed using the WHO recommended schedule of sputum smear microscopy according to DOTS strategy as a yardstick (7).

- ***Output quality:*** having the right outputs to happen like satisfaction with the care provided. The satisfaction level of the respondents was measured by a Likert scale which contains 17 items. Each item contains a score of a five-point scale ranging from 1 (very dissatisfied) to 5 (very satisfied) i.e. (1 = strongly dissatisfied, 2 = dissatisfied, 3 = neutral, 4 = satisfied, 5 = strongly satisfied). The respondents with a score of less than the mean were classified as dissatisfied, and those with a score of mean value and above were considered satisfied (16).

- ***Structural quality:*** having the right inputs like system and provider characteristics were determined by Donabedian's quality assessment in health care model. Structural attributes of quality were assessed using a checklist based on five categories: infrastructure; access; management and staffing; drugs and diagnostic testing; and patient environment. An average score for structural quality was computed by assigning a score of 1 for the presence of that aspect or positive responses, a score of 0, for the absence of that aspect or negative responses of each aspect. Maximum attainable score is 26, while minimum is 0. Percentage score for each health facility was calculated and structural quality was classified as; Very good (90-100), Good (80-89), marginal (70-79), Poor (60-69) and Very poor (16).

- ***Patient satisfaction:*** the level of satisifaction of pateiens measured by satisifaction measuring 5 point Likert scale items. Those respondents who had scored mean and above

satisifaction score were categorized as they were satisified with the service received from the health facilities and otherwise they were considered as unsatisified

- ***Transfer in:*** Patients who started treatment in one district and transferred to another district to continue treatment

- ***Relapse:*** Patients who has been declared cured or treatment completed from any form of Tb in the past but found to be AFB smear-positive or culture positive

- ***Case detection rate:*** The percentage of Tb cases detected among the total number of Tb cases estimated to occur in a region/country in a year more than 85% is good(7).

- ***Intensive phase:*** The phase consisting of three or more drugs for the first eight weeks for new cases and 12 weeks for re-treatment cases.

- ***Continuation phase:*** The phase that immediately follows the intensive phase consisting of at least two drugs for 4-6 month.

- ***New cases:*** Patients who have never had treatment for Tb or have been on anti-Tb treatment for less than four weeks.

- ***Treatment failure:*** Patient who while on treatment remained smear positive or became again smear positive at the end of five months or later after commencing treatment.

3.7 Data collection tools and procedure

3.7.1 Data collection tools

Data was captured using an interviewer-administered structured questionnaire. The questionnaire was prepared through depth review of literatures (9, 15, 18) and from Federal Ministry Health of Ethiopia TB and Leprosy control manual (7). Donabedian's quality assessment model in health care setting used as a proxy framework to arrange measuring items of the questionnaire (10). The questionnaire contained 25 measuring items in 5-point Likert scale. Of which 14 items were focused on the structure, 5 items were focused on the process and 6 items were focused on the outcome of the DOTS. Initially the questionnaire was prepared in English and translated into Amharic language (local and official working language of Ethiopia) and translated back to

English. The questionnaire was pre –tested on 36(5%) patients with TB who were on follow-up at a health facility which was not included in actual data collection sites. generated feedbacks and incorporated them. The questionnaire's overall reliability test was done in the pilot and actual study. Cronbach's alpha was obtained from the pilot and actual study, for the structure, process, and outcome measuring items. Tthe actual data collection was undertaken by preparing enough copies of the structured interview schedule and training of data collector.

3.7.2 Data collection procedure

The interview guide/protocol with (detail) questions was prepared, pretested and employed to conduct in-depth interviews with case informants, and with key informants for addressing the intended objectives of the study, respectively. The key informants were also composed of the Programme Officers and TLCP, head of health center, woreda and health center TB focal using interview protocol to guide the interviewing process. All interviews with the informants were arranged based on respective participants' convenience and then conducted on a date, and at a place and time of their choices.

3.8 Data management and analysis

The data from the interview schedule were verified, coded and fed into data entry template of Epi-data software and then analyzed by SPSS Version 25 to produce outputs like frequency distribution, arithmetic mean and other measures of descriptive statistics. Besides, open-ended questions incorporated in the schedule were carefully collected, summarized and then coded into different categories. Logistic regression was employed to identify factors associated for patients' overall satisfaction level and factors affect overall quality of DOTS of tuberculosis. Findings at P value of 5% and confidence interval of 95% were accepted as statistically significant.

3.9 Ethical consideration

Ethical clearance for the proposed research was obtained from Debre Markos University, College of Medicine and Health Sciences institutional Research Ethical Review Committee (IRERC. Formal letter of cooperation was written to East Gojjam zone health department and selected hospital and selected health center and permission was obtained from the hospital and health center administration. Data was collected after securing informed written consent from every participant. The confidentiality of information was maintained by excluding personal

identifiers, interviewing privately, and the signed consent forms were stored in lockable board at researcher office.

4 RESULTS

4.1 Socio-demographic characteristics

A total of 632 adult tuberculosis patients were involved in this study giving an overall response rate of 100.0%. Three hundred four (48.1%) of the respondents were male. The mean age of the study participants was 36.79 years ± SD, (SD = 12.23), ranging from 18 years to 62 years. Two hundred ninety-nine (47.3%) of the respondents were above grade 12 educational status (Table 2).

Table 2: Socio-demographic characteristics of adult tuberculosis patients in East Gojjam Zone, North West Ethiopia, 2025

Variables	Frequency	Percent
Sex		
Male	304	48.1
Female	328	51.9
Age		
Less than 27 years	148	23.4
27-33 years	160	25.3
34-47 years	168	26.6
Greater than 47 years	156	24.7
Marital status		
Single	225	35.6
Divorced	54	8.5
Married	287	45.4
Widowed	66	10.4
Educational status		
Not educated	18	2.8
Can read & write	106	16.8
Grade 1-12	209	33.1
Above grade 12	299	47.3

Variables	Frequency	Percent
Religion		
Muslim	90	14.2
Protestant	18	2.8
Orthodox	524	82.9
Occupation		
Farmer	66	10.4
Private employee	232	36.7
Merchant	173	27.4
Government employee	54	8.5
Job seeker	36	5.7
Other	71	11.2
Monthly income		
Less than 3500 ETB	138	21.8
3500-5199 ETB	178	28.2
5200- 7000 ETB	184	29.1
Greater than 7000 ETB	132	20.9

4.2 TB related characteristics of the respondents

About three-fourth, 470(74.4%) of adult tuberculosis patients were received TB prevention and control service at health centers. The health facility (TB clinic) where service provided were accessible for 437(69.1%) of the respondents. Three hundred forty (53.8%) of the respondents reseponded that service for all TB problem were availiable at the health facility they were served. Three hundred sixty four (57.6%) of the respondents had visit cost during theier TB clinic visits; 168(46.2%) and 72(69.1%) of the respondents had cost for transport and laboratory and for laboratory. Surprizingly, 18 (4.9%) of patienets who had visit cost had service fee (Figure 3). Majority, 566(89.6%) of the respondents perceived the waiting time to get service was short (30 minute and lower) (Table 3).

Table 3: Tuberculosis related characteristics of adult tuberculosis patients in East Gojjam Zone, North West Ethiopia, 2025

Variables	Frequency	Percent
Type of health facility where service received		

Variables	Frequency	Percent
Health center	470	74.4
Hospital	162	25.6
Accessibility of TB clinic		
Accessible	437	69.1
Not accessible	195	30.9
Service availability for all TB problem		
Yes	340	53.8
No	292	46.2
Visit to TB clinic before		
Yes	632	100.0
Presence of visit cost		
Yes	364	57.6
No	268	42.4
Period of TB treatment		
1-4 weeks	298	47.2
5-8 weeks	334	52.8
Ever faced treatment problem		
Yes	101	16.0
No	531	84.0
Waiting time to get service		
Short	566	89.6
Long	66	10.4

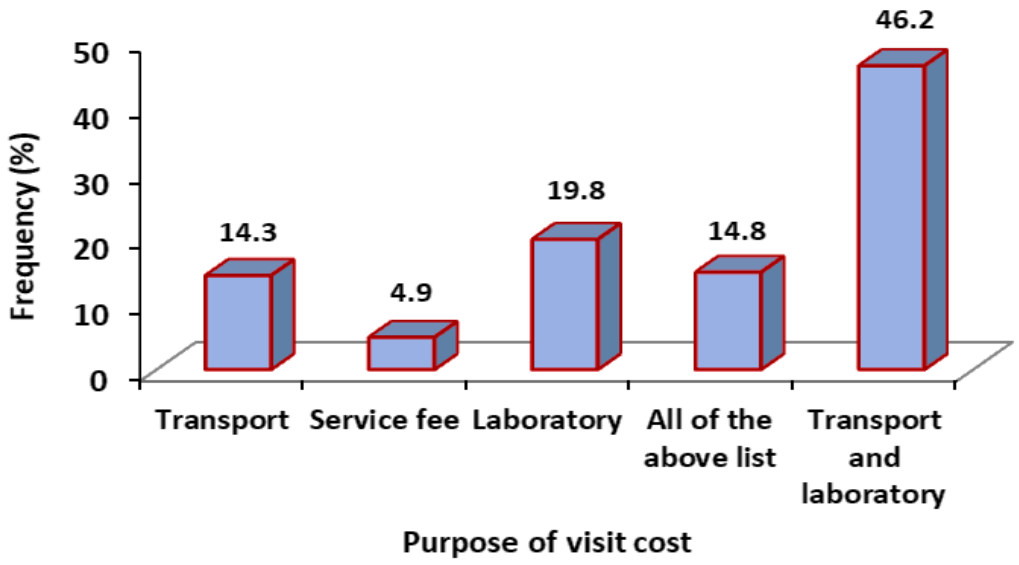


Figure 3: Prpose of visit cost among adult tuberculosis patients in public health institutions in East Gojjam Zone, North West Ethiopia, 2025

4.3 Structural attributes quality of DOTS

Stuructural factors of service quality were assessd through infrastructure, availability of trained stuff, availability of registers, manuals, guidelines and posters, availability of anti-TB drugs and availability of laboratory and supplies. The descriptive result of these structural factors of quality has been presented as follow.

4.3.1 Infrastructure

All of the health facilities had separate room for TB clinic and chair and table. Fifteen (51.7%) of the health facilities able to be attend patients in privacy. Only 9 (31.0%) of the helth facilities had waiting area where all patients able to sit while waiting for treatment and adequate volume of water in the Tb clinics (Annex 4.1).

4.3.2 Availability of trained staff

All of the health facilities had at least one health workers trained on TB control activities; 20(69.0%), 5(17.2%) and 4(13.8%) of the health facilities had one, two and three health workers trained on TB control activities respectively (Annex 4.2).

4.3.3 Availability of latest version registers, manuals, guidelines and posters

All of the health facilities had latest version of standard registers, manuals, guidelines and posters (Annex 4.3).

4.3.4 Availability of laboratory and supplies

All of the health facilities had laboratories and services. Similarly, all of the health facilities had all required tests and reagents and other laboratory supplies according to their standard/level (Annex 4.4).

4.3.5 Availability of drugs

Twenty four (82.8%) of the health facilities had anti-TB drugs namely; Rifampicin Isoniazid Pyrazinamide Ethambutol, Rifampicin isoniazid Pyrazinamide and Rifampicin isoniazid during the study period. Seven (24.1%) of the helth facilities ever experienced shortage of drugs. All of

the health facilities practice FEFO/FIFO; while, majority, 24(82.8%) of the health facilities determine drug requirements using RRF (Annex 4.5).

4.3.6 Summary of structural attributes quality of DOTS

In summary, the mean scores for structural factors were 53.5% ± 33.2 (infrastructure), 67.2% ± 10.4 (availability of trained staff), 100.0% (availability of registers, manuals, guidelines and posters), 82.8% ± 35.8 (availability of drugs) and 96.6% ± 1.4 (availability of laboratory and supplies). While, the mean score for structural quality of the health facilities was 80.02% ± 15.2. Based on these mean scores, the stutus of the health facilities was very poor for infrastructure, poor for availability of trained staff, very good for availability of registers, manuals, guidelines and posters, good for availability of drugs and very good for availability of laboratory and supplies. The overall structural quality status of the health facilities was gategorized as good (Table 4).

Table 4: Summary of structural attributes quality of DOTS among the health facilities that provide service for adult tuberculosis patients in East Gojjam Zone, North West Ethiopia, 2025

Structural quality related factors	Mean	Std. Dev.	Status
Infrastructure	53.5	33.2	Very poor
Availability of trained staff	67.2	10.4	Poor
Availability of registers, manuals, guidelines and posters	100.0	0.0	Very good
Availability of drugs	82.8	35.8	Good
Availability of laboratory and supplies	96.6	1.4	Very good
Overall structural quality	***80.02***	***15.2***	***Good***

4.4 Process attributes quality of DOTS

Process factors of service quality were assessd through communication between service provider and patient, counseling of patients, use of latest registers, manuals, guidelines, required laboratory tests done according the standard, patient's treatment according to standard, regular supervisionand ocumentation of TB prevention and control activities. The descriptive result of these structural factors of quality has been presented as follow.

4.4.1 Communication between provider and patient

Health service providers working at 23(79.3%) health facilities were great the patients in a friendly/polite manner. Patients were participated in part of decision making process at 10 (34.5%) of the health facilitie (Annex 4.6).

4.4.2 Counseling

Regarding counsceling of patients, health care providers working at TB clinics of all health facilities explain how to take the drugs, explain when to return for the next treatment, explain the need to comply with the drug treatment and explain when follow-up sputum microscopy is done. Health care providers working at 17(58.6%) health facilities adviced the patient to bring any family member/neighborhood having sign and symptoms of Tb to the Health facility. In 16 (55.2%) of the health facilities patient ask the provider for any pieces of information regarding the treatment and the providers respond to the client's question (Annex 4.7).

4.4.3 Use of latest registers, manuals, guidelines and formats

As shown below, health care providers working at all health facilities use latest version of standard registers, manuals, guidelines and formats (Annex 4.8).

4.4.4 Testing of required laboratory tests according to the standard

According the finding of record review, 194 (79.2%) and 50 (20.4%) of the patients had first acid fast bacilli test and first gene expert test respectively. were male. Sputum smear test on the second month of treatment was done for 95 (38.8%) of the patients; while, AFB tests on the 5th and 6/7/11th of treatment were done for 89 (36.3%) of the patients (Annex 4.9).

4.4.5 Treatment of adult tuberculosis patients

All of the patients were treated according to the standard with appropriate drugs and doses during the intensive phase of their treatment. But 209 (85.3%) of the patients were treated according to the standard with appropriate drugs and doses during the continuation phase of their treatment and the rest 36(14.7%) of the patients treatment drugs and doses were not recorded (Annex 4.10).

4.4.6 Regular supervision of TB prevention and control activities

Majority, 24(82.8%) of the health facilities had assigned regular supervisor of TB prevention and control activities. Four (13.8%), 4(13.8%) and 6 (20.7%) of the halth facilities TB prevention and control activities were supervised once, two and three and more times in six months respectively (Annex 4.11).

4.4.7 Documentation

The socio-demographic characteristic of the patients were completely recorded. 194 (79.2%) and 50 (20.4%) of the patient's first acid fast bacilli test and first gene expert test results were recorded appropriately. Weight of patient at start and at second month of treatment were recorded for 226 (92.2%) and 200 (81.6%) of the patients respectively. Treatment outcomes of the patient's were appropraitly recorded for 240 (98.0%) of the patients (Annex 4.12).

4.4.8 Summary of process attributes quality of DOTS

In summary, the mean scores for process factors were 66.7% ± 28.2 (communication), 75.4% ± 19.3 (counsceling), 100.0% (use of latest version registers, manuals, guidelines and posters), 59.6% ± 24.3 (required laboratory tests done according the standard) and 100.0% (patients treatment according to standard), 41.4% ± 19.2 (regular supervision) and 84.2% ± 10.9 (documentation). While, the overall mean score for process quality of the health facilities was 75.3% ± 12.2. Based on these mean scores, the stutus of the health facilities was poor for communication, marginal for counsceling, very good for use of latest standard registers, manuals, guidelines and posters, very poor for required laboratory tests done according the standard, very good for patients treatment according to standard, very poor for regular supervision and good for documentation. The overall process quality status of the health facilities was categorized as marginal (Table 5).

Table 5: Summary of process attributes quality of DOTS among the health facilities that provide service for adult tuberculosis patients in East Gojjam Zone, North West Ethiopia, 2025

Process quality related factors	Mean	Std. Dev.	Status
Communication	66.7	28.2	Poor
Counseling	75.4	19.3	Marginal
Use of latest registers, manuals, guidelines	100.0	0.0	Very good

Required laboratory tests done according the standard	59.6	24.3	Very poor
Patients treatment according to standard	100.0	0.0	Very good
Regular supervision	41.4	19.2	Very poor
Documentation	84.2	10.9	Good
Overall process quality	***75.3***	***12.2***	***Marginal***

4.5 Services provided for adult tuberculosis patients

From the total patients for whom first AFB and first gene expert tests done, 127(51.8%) and 40 (16.3%) were positive. Regarding patient classification, 127(51.8%) and 46(18.8.8%) of the patients were mmear positive PTB and smear negaitive PTB respectively and the rest 72 (24.9%) were MDR TB. All of the patients were treated with RHZE and RH during their intensive and continuation phases of their treatment respectively. The result of AFB test results were negative for all tests done at second, 5th and 6/7/11th of treatment. The treatment outcomes of the patients were cured (82 (33.5%)), loss to follow up (9 (3.7%)), treatment completed (90 (36.7%)), transfer out (27 (11.0%)), died (10 (4.1%)), unknown (17 (6.9%)) and treatment failure (5 (2.0%)). While, treatment outcome of 5 (2.0%) of the patients was not recorded (Table 6).

Table 6: Services provided to adult tuberculosis patients at the health facilities that provide service for adult tuberculosis patients in East Gojjam Zone, North West Ethiopia, 2025

Variables	**Frequency**	**Percent**
First acid fast bacilli result		
Positive	127	51.8
Negative	67	27.3
Not recorded	51	20.8
First gene expert result		
Positive	40	16.3
Negative	10	4.1
Not recorded	195	79.6
Weight at start of treatment		
20-29 Kg	4	1.8
30-39	10	4.4
40-54 Kg	122	54.0
55 Kg and above	90	39.8

Variables	Frequency	Percent
Patient classification		
Smear positive PTB	127	51.8
Smear negative PTB	46	18.8
MDR TB	72	29.4
Category of patients		
New	240	98.0
Not recorded	5	2.0
Treatment given during the intensive phase		
RHZE	245	100.0
Dose of the drugs during the intensive phase		
2 tab	14	5.7
3 tab	141	57.6
4 tab	90	36.7
Sputum smear result on the second month of treatment		
Negative	95	38.8
Not recorded	150	61.2
Weight at second month		
30-39	4	2.0
40-54 Kg	100	50.0
55 Kg and above	96	48.0
Drugs given during the continuation phase		
RH	209	85.3
Not recorded	36	14.7
Dose of the drugs during the continuation phase		
1 tab	5	2.0
2 tab	14	5.7
3 tab	100	40.8
4 tab	90	36.7
Not recorded	36	14.7
AFB done on the 5th and 6/7/11th of treatment		
Yes	89	36.3
No	156	63.7
AFB test results on the 5th and 6/7/11th of treatment		
Negative	89	100.0

Variables	Frequency	Percent
Treatment outcomes of the patient		
Cured	82	33.5
Loss to follow up	9	3.7
Treatment completed	90	36.7
Transfer out	27	11.0
Died	10	4.1
Unknown	17	6.9
Treatment failure	5	2.0
Not recorded	5	2.0

A total of 4029 tests, 773 AFB and 3256 Molecular WHO recommended Rapid Diagnostics (mWRDs) tests, were done in the last one year. From the total tests done, 223 positives (52 AFB and 171 Molecular WHO recommended Rapid Diagnostics (mWRDs) tests) were detected. As a result TB detection rate of the health facilities was 5.5% (Annex 4.13).

4.6 Patient satisfaction as an outcome indicator for quality of DOTS

Two hundred eighty seven (45.4%) and 142 (22.5%) of the respondents were very satisified and satisified on the item 'Satisfied with health worker' respectively. On the other hand, 83 (13.1%) and 11 (1.7%) of the respondents were very dissatisified and dissatisified on the cleanliness of waiting area' respectively. Eighteen (2.8%) and 203 (32.1%) of the respondents were very dissatisified and dissatisified on the item 'satisifaction with respect offered by the provider' respectively. One hundred forty four (22.8%) of the respondents dissatisified with provider's skill and ability in treating problem; while, 131 (20.7%) and 293 (46.4%) of them were satisified and very satisified with provider's skill and ability in treating problem repectively. Majority of the respondents were satisified on the effectiveness of the service received at the Tb clinic in solving problem where 173 (27.4%) and 382 (60.4%) of them were satisified and very satisified repectively (Table 7).

The mean satisfaction score of patients was higher for psychological wellbeingness (4.59), physical wellbeingness (4.58), overall services received from health worker (4.56) and TB symptoms reduction (4.49). On the other hand, the mean satisifaction scores were lowest for satisfaction with treatment schdules (3.2), waiting time satisfaction (3.32), respect offered by the

provider during visit (3.65) and measures taken to assure privacy during examination and treatment (3.68). In general the overall satisifaction level of the respondents was ranged from 33.0% to 85.0%; while, the overall mean satisfaction score of the patients was 69.03% ± 11.55 (Table 7).

Table 7: Satisfaction of patients by services provided at the health facilities that provide service for adult tuberculosis patients in East Gojjam Zone, North West Ethiopia, 2025

Satisfaction assessing items	Level of satisfaction										Mean	Std. D.
	VD		D		N		S		VS			
	No	%	No	%	No	%	No	%	No	%		
Satisfied with health worker	0	0.0	203	32.1	0	0.0	142	22.5	287	45.4	***3.81***	***1.31***
Satisfaction with treatment schedule	6	0.9	316	50.0	36	5.7	95	15.0	179	28.3	***3.20***	***1.34***
Cleanness of waiting area	83	13.1	11	1.7	36	5.7	60	9.5	442	69.9	***4.21***	***1.40***
Waiting time satisfaction	6	0.9	293	46.4	40	6.3	78	12.3	215	34.0	***3.32***	***1.37***
Cleanliness of the examination room	77	12.2	18	2.8	47	7.4	54	8.5	436	69.0	***4.19***	***1.39***
Comfort of waiting area	95	15.0	23	3.6	36	5.7	48	7.6	430	68.0	***4.10***	***1.49***
Cleanliness of any instrument	42	6.6	35	5.5	76	12.0	66	10.4	413	65.3	***4.22***	***1.24***
Respect offered by the provider	18	2.8	203	32.1	40	6.3	90	14.2	281	44.5	***3.65***	***1.39***
Measures taken to assure privacy	18	2.8	215	34.0	0	0.0	118	18.7	281	44.5	***3.68***	***1.40***
Provider's skill and ability in treating problem	0	0.0	144	22.8	64	10.1	131	20.7	293	46.4	***3.91***	***1.21***
Information given to problems	0	0.0	179	28.3	0	0.0	154	24.4	299	47.3	***3.91***	***1.26***
Cost incur during treatment period	0	0.0	102	16.1	18	2.8	172	27.2	340	53.8	***4.19***	***1.09***
Effectiveness of the service received at the Tb clinic in solving problem	0	0.0	36	5.7	41	6.5	173	27.4	382	60.4	***4.43***	***0.85***
TB Symptoms reduction	0	0.0	42	6.6	24	3.8	148	23.4	418	66.1	***4.49***	***0.85***
Psychological wellbeing-ness	0	0.0	42	6.6	6	0.9	124	19.6	460	72.8	***4.59***	***0.81***
Physical wellbeing-ness	0	0.0	42	6.6	6	0.9	129	20.4	455	72.0	***4.58***	***0.81***
Overall services received from health worker	0	0.0	36	5.7	12	1.9	148	23.4	436	69.0	***4.56***	***0.79***
Overall satisfaction score											***69.03***	***11.55***

Three hundred twenty four (51.3%, 95% CI = 47.4 – 55.1%), of the respondents had scored mean and above satisifaction score (Annex 4.14). Hence based on this score these respondents were categorized as they were satisified with the service received from the health facilities.

4.7 Factors associated with patient satisfaction

The socio-demographic and other characteristics of the study participants and structural and process factors of the health facilities were examined for the presence of association with patient's satisifaction. Binary logistic regression modelling explored the effect and strength of factors of patient's satisifaction. The result showed that from the socio-demographic variables age, marital status, educational status, monthly income and patient's period on TB treatment had statistically significant association with patient's satisifaction. According to the bivariable logistic regression modelling structural and process related factors namely; type of health facility, accessibility of TB clinic, presence of visit cost, service availability for all TB problems and waiting time to get service were were founded to have significant association with patient's satisifaction (Table 8).

Multivariable binary logistic regression modelling was performed to assess the independent effect of each factor that had statistically significant association with patient's satisifaction in the bivariable analysis. From the socio-demographic factors age, marital status, educational status and monthly income were remained to be independent determinant factors for patient's satisifaction.

Patient's satisifaction was differed by age of the patients where those patients who aged less than 27 years were 3.8 times more likely to be satisified compared to those patients who aged who aged greater than 47 years (AOR = 3.8, 95% CI = 1.8 – 8.0, P = 0.001). The result revealed that patient's satisifaction was differed by marital status where those patients who were not currently married were 2.2 times more likely to be satisified than those patients who were currently married (AOR = 2.2, 95% CI = 1.3 – 3.8, P = 0.004).

Those patients who had completed above grade 12 education had 3.8 times higher likelihood of being satisified than those who had no formal education (AOR = 3.8, 95% CI = 1.8 – 7.8, P < 0.001). Patient's satisifaction level was increased with increase in monthly income; those patients who were earned monthly income of 3500-5199 ETB, 5200- 7000 ETB and greater than

7000 ETB were 3.4, 6.2 and 19.0 times more likely to be satisified respectively (AOR = 3.4, 95% CI = 1.7 – 6.6, P < 0.001), (AOR = 6.2, 95% CI = 2.8 – 13.7, P < 0.001) and (AOR = 19.0 95% CI = 8.5 – 45.0, P < 0.001). Those patients whose period on TB treatment was 5-8 weeks had 5.2 times higher probability to be satisified as compared to those patients whose period on TB treatment was 1-4 weeks (AOR = 5.2, 95% CI = 2.9 – 9.3, P < 0.001).

Similarly, structural and process factors namely; type of health facility, accessibility of TB clinic, presence of visit cost and waiting time to get service were also founded to be independent determinant factors of patient's satisifaction.

The probability of satisifaction was 1.9 times higher among those patients who get service at hospitals than patients who get service at health centers (AOR = 1.9, 95% CI = 1.2 – 3.1, P = 0.006). Those patients who had accessible TB clinic were 3.2 times more likely to be satisified than those patients for whom the TB clinic was not accessible (AOR = 3.2, 95% CI = 1.8 – 5.6, P < 0.001). Patients who had no visit cost had 7.6 times higher probability to be satisified than their counterparts (AOR = 7.6, 95% CI = 14.0 – 5.5, P < 0.001). Those patients who get service with short waiting time were 2.5 times more likely to be satisified than those patients who get service with longer witing time (AOR = 2.5, 95% CI = 1.2 – 5.2, P = 0.020) (Table 8).

Table 8: Factors associated with satisfaction of patients by services provided at the health facilities that provide service for adult tuberculosis patients in East Gojjam Zone, North West Ethiopia, 2025

Variables	Satisfaction status		COR (95% CI)	AOR (95% CI)
	Satisfied	Unsatisfied		
Age				
Less than 27 years	111	37	***7.6(4.6-12.7)*** **	***3.8(1.8-8.0)*** *
27-33 years	96	64	***3.8(2.4-6.1)*** **	1.0(0.5-2.1)
34-47 years	73	95	***1.2(2.4-3.1)*** *	0.5(0.2-1.0)
Greater than 47 years	44	112	1	1
Marital status				
Married	132	155	1	1
Not married	192	153	***1.5(1.1-2.0)*** *	***2.2(1.3-3.8)*** *
Educational status				
Not formal education	36	88	1	1
Grade 1-12	95	114	***2.0(1.3-3.3)*** *	1.0(0.5-2.1)
Above grade 12	193	106	***4.5(2.8-7.0)*** **	***3.8(1.8-7.8)*** **
Monthly income (ETB)				
Less than 3500	50	88	1	1
3500-5199	74	104	1.3(0.8-2.0)	***3.4(1.7-6.6)*** **
5200- 7000	100	84	***2.1(1.3-3.3)*** *	***6.2(2.8-13.7)*** **
Greater than 7000	100	32	***5.5(3.2-9.3)*** **	***19.0(8.5-45.0)*** **
Period on TB treatment				
1-4 weeks	123	175	1	1
5-8 weeks	201	133	***2.2(1.6-3.0)*** **	***5.2(2.9-9.3)*** **
Type of health facility				
Health center	221	249	1	1
Hospital	103	59	***2.0(1.4-2.8)*** **	***1.9(1.2-3.1)*** *
Accessibility of TB clinic				
Accessible	276	161	***5.3(3.6-7.7)*** **	***3.2(1.8-5.6)*** **
Not accessible	48	147	1	1
Presence of visit cost				
Yes	132	232	1	1
No	192	76	***4.4(3.2-6.2)*** **	***7.6(4.2-14.0)*** **
Service availability for all TB problems				
Yes	198	142	***1.8(1.3-2.5)*** **	1.2(0.7-2.1)
No	126	166	1	1
Waiting time				
Short	308	258	***3.7(2.1-6.7)*** **	***2.5(1.2-5.2)*** *
Long	16	50	1	1

**** Association is significant at the 0.05 level. ** Association is significant at less than 0.001 level***

5 DISCUSSIONS

This institution based cross-sectional study tried to assess quality of directly observed treatment short course and its associated factors among adult Tuberculosis patients in public health institutions in East Gojjam Zone, Northwest Ethiopia. According to Donabedian's model (10) patient satisfaction was used as an outcome indicator for quality of DOTS.

The finding of this study shown that the magnitude of patient's satisifaction among adult tuberculosis patients was (51.3%, 95% CI = 47.4 – 55.1%). Nearly half of the patients were not satisified with quality of directly observed treatment short course. This implying that, structural, process and outcome attributes of DOTS service had problems. This finding was comparable with findings of studies conducted in Uttar Pradesh, India (56.0%) (31) and Bahir Dar (53.8%) (15).

However, the finding of the current study was lower than the findings of studies conducted in India (86.0%) (32), Pakistan (82.0%) (33), India (76.0%) (34), Southern Nigeria (68.0%) (35), Pakistan (63.94%) (36), Sidama zone, South Ethiopia (90%) (37), Sidama Zone, Southern Ethiopia (71.6%) (38) and Gamo Zone, Southern Ethiopia (61.17%) (39). The discrepancy might be due to geographical difference and differences in health care delivery system of the study health facilities, where the current study included peripheral health centers that were sited in different geographic locations in the zone. In addition, some of the previous studies included private health facilities which have different setting, stuff and clinical activities with public health facilities. The other possible explanation for the variation might be due to health care workers' capacity and motivation level and differences in socio-demographic characeteristics of the study participants. Additionally, this discrepancy may arise from differences in how satisfaction is operationalized and the techniques used to determine satisfaction status. For example, in the study conducted in Nigeria, satisfaction was recorded when a patient answered very satisfied or satisfied to a single question ('how satisfied were you with the service today?'). While, in the current study, satisfaction was built on composite variables related to several indicators, including physical infrastructure, behavior of providers, availability of medicine, emotional support, cost of service, and respect of patients' choices; those who got mean and more overall satisfaction using composite indicator was considered as as satisified.

The finding of this study revealed that the odds of being satisified with DOTS service was higer among patients aged less than 27 years than the odds of patients aged greater than 47 years. This finding was in line with the finding of a study conducted in Pakistan (36), Iraq (40), Nigeria (35), Nigeria (41), Jimma, Ethiopia (16) and a systematic review in Ethiopia (42). The potential explanation for this variation of satisifaction level by age might be due to tha fact that younger patients might be might have better educational status which help them to access and read diferent DOTS service related teaching materials and make them aware about their responsibilities and rights towards the treatment. In addition, younger patieents might have better communication skill and understanding of what they have counsceled and intern satisified with the service delivered (36). The other plausible rationale might be that older people frequently have comorbid ailments, have overall physiological decline with age, are less able to access health care services which result in poor treatment outcomes. This in turn led them to be less satisified than younger patients. Furthermore, most of the time older individuals have higher expectetions from health care services; hence, older patients with high expectations tend to be less satisfied with health services (42).

Marital status was a significant determinant factor of patient's satisifaction. The result revealed that patients who were not currently married were more likely to be satisified than those patients who were currently married. In agreement with this finding, studies conducted in Nigeria (41), Bahir Dar (15) and a systematic review in Ethiopia (42) reported that patients who were single, divorced and widowed were more satisified than their married counterparts. This might be due to the fact that married women could have issues competing with their health care utilization like having child to care, low access to household finance, even lack of time to care themselves and result in poor outcome of the service obtained from the health facilities wich inturn made them less satisified. In contrast to the current study, studies conducted in Pakistan (36) and Nigeria (35) reported that patients who were divorced and widowed were less satisified with DOTS services. The studies argued that these groups of patients might have their own children to assist in taking their own drugs as well as personal maturity might play its own role.

Educational status was the other significant factor of satisifaction where patients who had completed above grade 12 education were more satisified than those patients who had no formal education. Concurrently with this finding, studies conducted in West Bengal, India (34), Pakistan

(36), Nigeria (35), Sidama Zone, Southern Ethiopia (38) and a systematic review in Ethiopia (42) revealed that higher educational status leads to higher levels of satisfaction. Various studies argued that illiteracy leads to ignorance which in turn leads to dissatisfaction to the given services (33, 41, 43). This finding could be justified by the fact that patients with higher education are much more likely to appreciate information and services provided by DOTS staff as well as make better informed decision to improve their health as a result be more saticisied by the service obtained. The other possible explanation maight be the fact that literate patients had more knowledge, understood the signage and directions to TB centers, knew how to talk and interact in a better way with health professionals, are less dependent on health facilities for example, literate patients can read posters and pamphlets. Therefore, they could be more satisfied than the illiterate patients (34).

On the other hand, a study conducted in Kampala (44) revealed a contradicting finding that shown highly educated patients were less likely to be satisfied due to their high expectations, and tend to be less satisfied with health care services. This discrepancy might be due to the differences in educational status classification of the study subjects where, the highest educational status was completing gread 12 and above and in the pervious studies the highest educational status was first degree and above.

In this study, monthly income was founded as a significant factor of satisifaction. The finding revealed that patient's satisifaction level was increased with increase in monthly income. That is patients who had good economic background were more satisfied than poor. In agreement with this finding studies conducted in Pakistan (36), Uttar Pradesh, India (56.0%) (31) and Ethiopia (42) reported a positive association between higher satisifaction alevel and higher economic status. The possible explanation for this finding might be the fact that patients belonging to the low-income group had several socio-economic constraints; for example, they could not finance their medical expenditures and transportation costs that led to their lower satisfaction.

Period on TB treatment was another significant factor of satisifaction; the TB patients who took treatment for 5-8 weeks weeks or were more likely to be satisfied with the DOTS service compared to those patients whose period on TB treatment was 1-4 weeks. This study finding was supported by previous study findings conducted in Gamo Zone, Southern Ethiopia (39), Sidama

Zone, Southern Ethiopia (38) and Ethiopia (42) that reported patients with increased treatment duration and those with improvement in symptom reduction were more likely to be satisfied with DOTS services. One of the possible explanations for this finding might be as an increase in duration of TB treatment, the patients' adherence with treatment and decrease in their sign and symptoms which in turn might increase their satisfaction.

Type of health facility where the patients got DOTS services was the other significant factor of satisifaction. The probability of being satisified was higher among those patients who get service at hospitals compared to those patients who get service at health centers. This finding was in line with the findings of studies conducted in Nigeria (35) and Ethiopia (42). This might be due to the fact that technical quality, communication, time spent with doctor, and accessibility and convenience were found to be better amongst participants attending DOTS service at hospitals which in turn could led to higher level of satisifaction by the service delivered.

Accessibility of TB clinic was the other important factor of satisifaction; Living near DOTS clinic was associated with an increased satisifaction of patients. Those patients who had accessible TB clinic were more likely to be satisified than those patients for whom the TB clinic was not accessible. In agreement with the current study, studies conducted in India (32), Pakistan (33), Nigeria (35), Bahir Dar (15), Sidama Zone, Southern Ethiopia (38) and Ethiopia (42) reported a significant association between accessibility of TB clinic and patient satisifaction. The plausible explanation for this finding might be explaind by the fact that the national TB control program encourages TB patients to access care in DOTS facilities closest to them to ensure effective patient monitoring and prevent treatment interruption. These situations might help the patients to have better outcomes and as a result make the patients satisified by the service they had from such health facilities. This finding might also explained by the fact that when the service is accessible to the clients, they might have no or decreased visit cost, they might have frequent and close contact with the care providers and they might have better adeherence to the treatment and could have better outcome. These conditions in turn might lead the patients to be satisified with the service provided.

In the current study presence of visit cost by the patients was founded as a significant factor of satisifaction. The patients who spent transportation, laboratory, food and other costs to get

service from the health facilities were less likely to be satisfied with DOTS as compared with those who had no visit costs. This finding was in line with the findings of studies conducted in India (32), Pakistan (33), Nigeria (35), Gamo Zone, Southern Ethiopia (39), and aystematic review in Ethiopia (42). The possible explanation for this is the fact that since the study area included hospitals and health centers with different geographical locations, less road accessibility, absence of all required laboratory services where the patients might be exposed to high transport, laboratory and other costs, which might lead to patients' dissatisfaction with the DOT service. Another possible reason could be, although TB services are supposed to be provided free of charge, TB affected families spend different types of costs in the process of seeking care, which might include health and non-health related costs which might lead them to dissatisfaction. Payment for TB services was associated with lower satisfaction with staff attitude, an expression that the patients were not happy with facility staff that collect money for a service that ought to be free. It could also mean that patients hold care providers responsible for any payment made for TB services. Elsewhere, incurrence of unnecessary service cost has been associated with dissatisfaction with health services.

Waiting time to get service was significantly associated with patient satisifaction. Those patients who get service with short waiting time were more likely to be satisified than those patients who get service with longer witing time. In support of this finding, studies conducted in India (32), Pakistan (33), Nigeria (35), Sidama Zone, Southern Ethiopia (38) and Ethiopia (42) revealed that perceived waiting time was significantly associated with patient satisfaction where the level of satisfaction decreased with an increasein perceived length of waiting time. Low satisfaction with waiting time could be because of inadequacy of trained personnel to provide TB services results in increased work load for few trained staff and consequently delay in accessing care. In addition, low satisfaction with waiting time could also be due the fact that most people affected are within the economically productive age group and are engaged in one economic activity or the other, such that spending long time in DOTS facility results in high opportunity costs. Opportunity costs in this context are the earnings lost or could be lost by an individual consequent upon time spent while accessing TB care.

Possible limitations of the study

1. The cross-sectional nature of the study does not allow establishing causality of associations and the results should be interpreted cautiously.
2. The study used only quantitative data and hence this study did not triangulate information with qualitative data from different sources.

6 CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

Based on the analysis results of its data and by considering the above possible limitations into account, the current study drowns the following conclusions:

The study revealed that nearly fifty two percent of the patients were satisivied with the DOTs service; still the the level of patient's satisifaction is low in the study area where a significant number of the patients were not saticified with the service. This might be an indication that the quality of the service is poor. Eventhough, availability of drugs, laboratory services and other materials were good, infrastructure and availability of trained stuffs were very poor and poor respectively. In addition, process quality related factors; communication between provider and patient, performance of required laboratory tests and regular supervision of DOTS services were very poor.

This study identified that patient characteristics and helth facility structural and process factors, namely; age, marital status, educational status, monthly income, type of health facility, accessibility of TB clinic, presence of visit cost and waiting time to get service were factors significantly associated with patient's satisifaction. Being younger, unmarried, having higher educational status, having higher monthly income, attending service at hospitals, accessibility of TB clinic, absence of visit cost and short waiting time were important predictors of satisifaction.

6.2 Recommendations

Based on its finding and by considering it conclusions drown in to account, this study forwarded the following recommendations. Since patient characteristics and structural and process factors affect patient satisfaction level, interventions to improve the quality of DOTS sevice and patient's satisifaction should focus on these significant factors.

- The regional health Bureau, Zonal health office, and health institutions need to facilitate accessibility, and construct TB clinic with standards like having proper waiting room.
- Health care facility managers should plan and implement interventions focusing on improving infrastructure of the health facilities, fulfilling the required number of trained staffs and proiding refresher training for the health care providers,
- The respective health institutions need to provide periodic refreshments on job trainings and develop mechanisms to improve the qualities of staffing.
- Health care facility managers should implement interventions to improve accessibility of the service and avoid unnecessary visit costs.
- Regular supervision and follow up of TB programme with proper schedule and feedback need to be practiced by each health institution, zonal health office, and Regional health Bureau as their own concerns.
- Health care providers should make the service patient friendly and great emphasis should be given for interaction and communication with patients. They should have to communicate in polite and understandable manner
- Health care providers should provide prompt service delivery to reduce waiting, which would enhance DOTS service qualtty of their health facilities.
- Health professional working in TB clinic should treat TB patients by keeping their own privacy and provide quality service
- Qualitative studies on satisfaction of the TB patients are more conclusive than the quantitative ones. Hence, qualitative studies are required to be conducted among the TB patients to enlighten the dissatisfaction part more elaborately

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8 APPENDIXES

8.1 Annex-1: Questioners

Form I Questionnaire prepared to assess the structure of Tb clinics in Amhara regional state East Gojjam Zone Health institutions.

Health facility name:-

Ser. no	Questions	Answers	Code
Staffing			
200	Number of Health workers in the health institution	1). MD _____ 2. HO _____ 3. Nurses _____ 4. Lab. tech. _____ 5. Pharmacy tech. ____ 6.Infectious disease specialist 7. Other (specify)--------	
201	Number of health workers trained on TB control activities	1. One. 2. Two .3. Three & above 4. Not at all.	
202	Is there a full time staff assigned in the TB clinic?	1. Yes 2. No---skip to 205	
203	If yes, did he/she ever train on Tb control activities?	1. Yes 2. No	
204	Is she/he received refreshment trainings on Tb control activities soon?	1. Yes------when------- 2. No	
205	Do you have laboratory technician in your health facility?	1. Yes 2. No	
206	If yes, did he/she ever train on AFB	1. Yes 2. No	

	techniques?					
207	Is she/he received refreshment trainings soon?	1. Yes----when----- 2. No				
208	Do you have molecular WHO recommended Rapid Diagnostics (mWRDs) such as the Xpert MTB/RIF assay?	1. Yes 2. No				
209	If yes for Q 205 and 208 is he/she ever train on molecular WHO recommended Rapid Diagnostics (mWRDs) such as the Xpert MTB/RIF assay?techniques?	1. Yes 2. No				
210	Is she/he received refreshment trainings soon?	1. Yes------when----- 2. No				
Materials		Availability		In use		
		Yes	No	yes	no	
211	Latest version of TLCP manual					If no why?
212	Latest version of TLCP lab. Manual					
213	Latest version of Tb unit registry					
214	Latest Tb referral & transfer form					
215	Latest version of Tb sputum examination request form					
216	Latest version of quarterly case finding, treatment outcome and other Tb control activity report form					
217	Tb flip chart					
218	Flow chart for Dx and Rx of PTB					
219	Tb posters in different language					
220	Tb posters in different language					
		Availability		In use		

	Anti TB drugs	yes	No	yes	No	
221	RHZE					
	RHZ					
	RH					
	Ethambutol					
	INH					
222	Have you ever experienced shortage of drugs?	1.yes 2.no				
223	If yes, for how long?	1. less than a week 2. about a week 3. about two weeks 4. more than two weeks				
224	Do you practice FEFO/FIFO?	1. Yes 2. No				
225	How do you determine your drug requirements?	1. Quantification 2. Guessing 3. Higher officials determine for us 4. Other(specify)				
	Laboratory supplies	avilability		In use		
		yes	no	yes	no	
226	Molecular WHO recommended Rapid Diagnostics (mWRDs) such as the Xpert MTB/RIF assay?					
227	Microscope –Binocular - Electrical/Daylight					
228	Xylene (toluene)					
229	Immersion oil with a dropper					
230	Sputum cups					
231	Glove					
232	Cotton wool swab					

233	Cotton/gauze					
234	Pen-blue/red					
235	Slides					
236	Slide holder					
237	Wire loop/Wooden applicator					
238	Bunsen burner/Spiral Lamp Burner					
239	Forceps for holding slide and fixing					
240	Staining reagent					
241	Filter paper and glass flasks					
242	Slide rack for staining					
243	Basin if their is no Sink					
244	Water filter can with a tap if no running water					
245	Alarm clock					
246	Waste receptacle (metal with lid)					
247	Box for keeping examined slides					
248	Bucket for water					
249	Disinfectant-5% phenol or 10% sodium hypo chloride.					

250. Are laboratory services available in the health facility? 1. Yes____, 2. No ____

251. If yes, is AFB done? 1. Yes_____ 2. No_____

252. Total number of AFB tests done in the last year._____

253. Total number of AFB tests with positive test result._____

254. Total number of patients using laboratory services in the last year._____

255. If yes for Q 250 Is Molecular WHO recommended Rapid Diagnostics (mWRDs) such as the Xpert MTB/RIF assay done?

256 .Total number of Molecular WHO recommended Rapid Diagnostics (mWRDs) test done in the last year?

257. Total number of Molecular WHO recommended Rapid Diagnostics (mWRDS) test positive /detected?

Form II. Observation checklist for Service Delivery/process

Provider- patient interaction:

300. Does the provider great the patient in a friendly/polite manner? 1. Yes, 2. No.

301. Does the patient participate in part of decision making process? 1. Yes, 2. No.

302. Do the provider and patient speak the same language? 1. Yes, 2. No.

Information provision:

304. Does the provider explain how to take the drugs? 1. Yes, 2. No.

305. Does the provider explain when to return for the next treatment? 1. Yes, 2. No.

306. Does the provider explain the need to comply with the drug treatment? 1. Yes, 2. No.

307. Does the provider explain when follow-up sputum microscopy is done? 1. Yes, 2. No.

308. Does the provider advices the patient to bring any family member/neighborhood having sign and symptoms of Tb to the Health facility? 1. Yes, 2. No.

309. Does the provider ask the patient for any concerns regarding the treatment? 1. Yes, 2. No.

310. Does the patient ask the provider for any pieces of information regarding the treatment? 1. Yes, 2. No.

311. If yes, did the provider respond to the client's question? 1. Yes, 2. No.

Facilities:

312 Does the provider have a chair and table? 1. Yes, 2. No.

313. Does the patient be able to be attended in privacy? 1. Yes, 2. No.

314. Are all patients able to sit while waiting for treatment? 1. Yes, 2. No.

315. Is adequate volume of water available in the Tb clinics? 1. Yes, 2. No

Form III. Health worker interview

400. Where does the health facility usually get medications and supplies? 1. RHB. 3. NGO. 2. FMOH

401. How drugs and supplies are usually received? 1. Delivered to facility 2. Picked up from the supplier

402. What is the most common cause of a delay in delivery of supplies? (Check all that apply.)

1. Inadequate transport
2. Administrative difficulties
3. Insufficient staff
4. Financial problems

403. Do you have a regular supervisor? 1. Yes, 2. No (If NO, go to question 408.)

404. Do you have a schedule for supervisory visits? 1. Yes, 2. No

405. How many times have you had a visit from a supervisor? - In the last 6 months _____ (number of times) - In the last 12 months _____ (number of times)

406. What did your supervisor do the last time he/she supervised you? (Check all that apply.)

1. Delivered supplies (drugs, lab supplies, etc.) 2. Observed Tb registry form,
3. Observed treatment of Tb patients, 4. Reviewed reports prepared by health worker
5. Updated health worker on current information 6. Discussed problems with Health Workers.

407. A. Did you receive feedback from that supervisory session? 1. Yes, 2. No B. If YES, in what form?

1. Supervisory register 2. Oral report 3. Written report

408. What are the most difficult problems that you face in doing your job? (Check all that apply.)

1. Lack of training 2. Staff shortages (turn over) 3. Poor communication system,

4. Poor working environment 5. Patients don't come to health facility,

6. Lack of supervision (feedback on performance) 7. Inadequate (poor) transportation system,

8. Lack of supplies and/or stock (health facility, housing) 9. Improper working time

409. Have you discussed these problems with your supervisor? 1. Yes 2. No

410. Have you received trainings on Tb control activities in the last 12 months? 1. Yes 2. No

411. How do you assess suspected cases for Tb? 1. Collect and examine sputum for AFB microscopy, 2. Challenge with broad-spectrum antibiotics, 3. Refer for Diagnosis to higher level health facility, 4,using molecular mWRDs 5 .other

412. What procedures do you follow for sputum collection and examination for suspected cases? 1. Collect sputum immediately and appoint him for the next day, 2. Appoint the patient to bring his/her sputum the following three mornings, 3.spot-spot

413. How do you decide final diagnosis?

1. If Sputum microscopy is suggestive of Tb, 2. If suspected cases don't to respond to broad-spectrum antibiotics,

3. X-ray findings suggesting Tb, 4. If referred in from other health facility. 5. by mWRDs 6.other

414. How do you monitor patient for treatment compliance?

1. Daily filling the registration forms, 2. Checking for absentees on monthly basis (for those on continuation phase), 3. No means of monitoring.

415. How do you retrieve for absentees? (Check all that apply) 1. Contact his/her contact person,

2. Immediately report to my supervisor, 3. Tell to Administrator/opinion leaders of the patient's district, 4. Send information through other patients, 5. Do nothing

416. What do you think is your role Tb control activities? (Check all that apply.) 1. Giving health education to patients and the community (Tb), 2. Referring/assessing suspected cases for investigation, 3. Diagnose and treat cases, 4. Retrieve absentees, 5. Keep patient records, 6. Report activity reports timely,

417. How do you provide anti-Tb drugs for your pt during intensive phase? 1. Under Supervision. 2. Give them drugs to take at home & come back after finishing. 3. other

418. When do you report Tb control activity report? 1. Monthly, 2. Quarterly, 3. Bi-annually,

4. Annually, 5. When asked by supervisor.

Form IV. Questionnaire prepared to assess the appropriateness /document review of DOTS services given in Amhara regional state East Gojjam Zone Health institutions.

Health facility name _____

500. Patient's unit Tb Number. 1. _____ 2. Not recorded ----

501. Sex of the patient . 1. Male 2. Female 3. Not recorded -----

502. Age of the patient .1. _____ 2. Not recorded -----

503. Initial diagnostic AFB result 1. Positive. 2. Negative. 3. Not done/unrecorded -----

504 . Weight of the patient 1. _____ 2. Not recorded ---

505. Classification of the patient 1. Smear positive PTB 3. EPTB 2. Smear negative PTB 4.MDR 5. Not recorded --/

506. Category of the patient 1. New 2. Transfer in 3. Relapse 4. Failure .5. Loss to follow-up . 6. Not recorded. 7. Others

507. Treatment given during the intensive phase 1. _____ 2. Not recorded -------

508. Dose of the drugs during the intensive phase 1. _____ 2. Not recorded -------

509 . Sputum smear result on the 2 nd month of treatment 1. Positive. 2. Negative. 3. Not done/unrecorded

510 .Weight of the of the patient on the second month of treatment 1. _____ 2. Not recorded ----

511. Drugs given during the continuation phase 1. _____ 2. Not recorded ---

512. Dose of the drugs during the continuation phase 1. _____ 2. Not recorded ----

513. Is AFB done on the 5th and 7/11th of treatment? 1. Yes 2. No---skip to 516

514. If yes, the result is 1. Positive. 2. Negative. /---/

515. Treatment outcomes of the patient 1. Cured .2 loss to follow up .3. Treatment completed 4. Transfer out. 5. Died .6. Unknown 7. Treatment Failure

516. Completeness of the registration form 1. Complete 2. Incomplete

Form VI. Questionnaire prepared to assess Tb client's satisfaction level/output quality/ in the service in in Amhara regional state East Gojjam Zone Health institutions.

CONSENT:

Hello, my name is _____. I am working as data collector in a study conducted by the Debre -Markos University college of health science Department of public Health to assess the quality of DOTS in Amhara regional state East Gojjam Zone Health institutions. As you are randomly selected from patients taking treatment services in this health institution, I kindly request you to participate in this study. I will ask you some questions related to the services you are getting from this health institution. Your name will not be written in this form and you will never be used in connection with any information you tell me. You don't have to answer any question that you don't want to answer and you may end this interview at any time you want to. Your answers are completely confidential. Your honest answers to these questions will help us better understand about the quality of DOTS services in the Region. The interview will take only about 20-25 minutes. So are you willing to participate in the study?

Yes _____. Go to the next page.

No _____. Acknowledge and go to the next patient.

Health institution's name and type_____

Interviewer _____

Date of interview _____

Supervisor: Name _____, signature _____

Ser no	Questions	Response category	code
	General information		
600	Sex	1.male---- 2.female	
601	Age of the patient	_____(in years& in months for children)	
602	Marital Status	1. Single 2.Divorced	

		3. Married 4. Widowed	
603	Educational status	1. Illiterate 2) 6-12 grade 3. Read & Write 4) Above 12 grade 5. 1-6 grade	
604	Religion	1. Muslim 2. Protestant 3. Orthodox Christians 4. Other (specify)	
605	Occupation	1. Pastoral 4. Private Business 2. Agro-pastoral 5. Merchant 3. Gov't employee 6. Other (specify)	
606	What is your approximate monthly income in Birr?		
607	Do you incur cost for your visit?	1. Yes 2. No----skip to 610	
608	If yes, for what purpose?	1. Transport 4.laboratory services 2. Food & Reception 5. Other (specify) 3. Provider' fee	
609	Have you ever visited this clinic for Tb services before?	1. Yes 2. No	
610	How long have you been since you start Rx?		
611	Do you have problem with the treatment?	1. Yes 2. No	
612	Do you able to get the Tb clinic easily?	1. Yes 2. No	
613 a	How long (minutes/ hours) does it normally take you to the Tb clinic?	_____ Minuets /hours	
613 b	By what means you normally get to the Tb clinic?	1. Walking 3. Car 2. Stretcher 4. Other (specify)	
	Organizational issues:		
614	How satisfied are you with the adequacy of the schedule (working hours) of the Tb clinic for your	1. Satisfied 2. Very satisfied 3. Neutral/ I don't know. 4.dissatisfied 5.very dissatisfied .	

	treatment?		
615	A fter arriving at the Tb clinic, how satisfied are you with the time spent waiting to receive your treatment	1. Satisfied 2. Very satisfied 3. Neutral/ I don't know. 4.dissatisfied 5.very dissatisfied.	
615 a	About how long (min/hours) did you have to wait?	_____ (minutes/hours	
615 b	How long have you waited today?	_____ (minutes/hours	
616	How satisfied are you with the time the health worker spent with you during your visit?	1. Satisfied 2. Very satisfied 3. Neutral/ I don't know. 4.dissatisfied 5.very dissatisfied.	
	Facility equipment and supplies:		
617	The overall cleanliness of the waiting area?	1. Satisfied 2. Dissatisfied 3. Neutral/ I don't know	
618	The overall comfort of the waiting area?	1. Satisfied 2. Very satisfied 3. Neutral/ I don't know. 4.dissatisfied 5.very dissatisfied	
619	The over cleanliness of the examination room/place where you received service?	1. Satisfied 2. Very satisfied 3. Neutral/ I don't know. 4.dissatisfied 5.very dissatisfied	
620	The cleanliness of any instrument or equipment used by the health workers to treat or examine you?	1. Satisfied 2. Very satisfied 3. Neutral/ I don't know. 4.dissatisfied 5.very dissatisfied	
621	Have you ever experienced shortage of drugs during your treatment period?	1 .Yes 2. No. if no Q 624	
622	If yes, for how long?	_____(in days/months)	
623	What measures did you take?	1. Referred to other Health facility 2. Purchased from private clinic 3.Interrupted treatment 4. Other (specify)	

	Availability of Service:		
624	Were all the services you need to treat your problem available at the Tb clinic during your visits?	1.Yes 2. No	
625	If not, please list any services, which are not available at the clinic but are important to meet your need?	1. lack of Health Worker in Tb clinic, 2. lack of X-ray services 3. Interruption of laboratory services 4. Interruption of anti-Tb drugs.	
	Interpersonal qualities of service provider:		
626	How are satisfied with:		
626.1	The respect offered by the provider during your visit?	1. Satisfied 2. Very satisfied 3. Neutral/ I don't know. 4.dissatisfied 5.very dissatisfied.	
626.2	The measures taken to assure privacy during your examination and treatment?	1. Satisfied 2. Very satisfied 3. Neutral/ I don't know. 4.dissatisfied 5.very dissatisfied.	
	Professional competence and skill of the Health workers:		
627	How are satisfied with:		
627.1	The provider's skill and ability in treating your problem?	1. Satisfied 2. Very satisfied 3. Neutral/ I don't know. 4.dissatisfied 5.very dissatisfied.sdqsdwqwsqdws	
627.2	The completeness of the information given to you about your problem?	1. Satisfied 2. Very satisfied 3. Neutral/ I don't know. 4.dissatisfied 5.very dissatisfied	
	Cost:		
628	How satisfied are you with the cost you incur during your treatment period?	1. Satisfied 2. Very satisfied 3. Neutral/ I don't know. 4.dissatisfied 5.very dissatisfied.	

	Efficacy of treatment:		
629.	The effectiveness of the service you received at the Tb clinic in solving your problem?	1. Satisfied 2. Very satisfied 3. Neutral/ I don't know. 4. Dissatisfied 5.very dissatisfied.	
629.1	TB Symptoms reduction	1. Satisfied 2. Very satisfied 3. Neutral/ I don't know. 4.dissatisfied 5.very dissatisfied.	
629.2	psychological wellbeing-ness	1. Satisfied 2. Very satisfied 3. Neutral/ I don't know. 4.dissatisfied 5.very dissatisfied.	
629.3	physical wellbeing-ness	1. Satisfied 2. Very satisfied 3. Neutral/ I don't know. 4. Dissatisfied 5.very dissatisfied.	
629.2	The overall services you received from the health worker?	1. Satisfied 2. Very satisfied 3. Neutral/ I don't know. 4. Dissatisfied 5.very dissatisfied.	
630	Would you recommend the services at this health facility to someone else?	1. Yes 2. No	

Thank you

Source :- Depth review of literatures (9, 15, 18) and from Federal Ministry Health of Ethiopia TB and Leprosy control manual (7).

8.2 Annex-2: Amharic version questionnaire

ቅጽ I መጠይቅ በአማራ ክልላዊ መንግስት ምሥራቅ ጎጃም ዞን የጤና ተቋማት የቲቢ ክሊኒኮችን አደረጃጀት ለመገምገም የተዘጋጀ።

የጤና ተቋሙ ስም:-

ተ.ቁ ጥያቄዎች ምላሾች ኮድ ሠራተኞች 200 በጤና ተቋሙ ውስጥ ያሉ የጤና ባለሙያዎች ብዛት 1). ኤምዲ _____ 2. ኤችኦ _____ 3. ነርሶች _____ 4. ላብራቶሪ ቴክኒሻን _____ 5. ፋርማሲ ቴክኒሻን ____ 6.ተላላፊ በሽታዎች ስፔሻሊስት 7. ሌላ (ይግለጹ)-------- 201 በቲቢ ቁጥጥር ተግባራት ላይ ሥልጠና ያገኙ የጤና ባለሙያዎች ብዛት 1. አንድ. 2. ሁለት .3. ሦስት እና ከዚያ በላይ 4. በጭራሽ. 202 በቲቢ ክሊኒክ ውስጥ የሙሉ ጊዜ ሠራተኛ ተመድቧል? 1. አዎ 2. አይደለም---ወደ 205 ይዝለሉ 203 አዎ ከሆነ፣ እርሱ/እርሷ በቲቢ ቁጥጥር ተግባራት ላይ ሥልጠና ወስደዋል/ወስዳለች? 1. አዎ 2. አይደለም 204 እርሱ/እርሷ በቅርቡ ስለ ቲቢ ቁጥጥር ተግባራት የማደሻ ሥልጠና ወስደዋል/ወስዳለች? 1. አዎ------መቼ---------- 2. አይደለም 205 በጤና ተቋማችሁ የላብራቶሪ ቴክኒሻን አለ? 1. አዎ 2. አይደለም 206 አዎ ከሆነ፣ እርሱ/እርሷ በአሲድ ፈጣን ባሲሊ (AFB) ቴክኒኮች ላይ ሥልጠና ወስደዋል/ወስዳለች? 1. አዎ 2. አይደለም 207 እርሱ/እርሷ በቅርቡ የማደሻ ሥልጠና ወስደዋል/ወስዳለች? 1. አዎ----መቼ----- 2. አይደለም 208 እንደ ኤክስፐርት ኤምቲቢ/አርአይኤፍ (Xpert MTB/RIF) ያሉ በዓለም ጤና ድርጅት የሚመከሩ ፈጣን ሞለኪውላር ምርመራዎች (mWRDs) አሉዎት? 1. አዎ 2. አይደለም 209 ለጥያቄ 205 እና 208 መልስዎ አዎ ከሆነ፣ እርሱ/እርሷ እንደ ኤክስፐርት ኤምቲቢ/አርአይኤፍ (Xpert MTB/RIF) ባሉ በዓለም ጤና ድርጅት የሚመከሩ ፈጣን ሞለኪውላር ምርመራዎች (mWRDs) ቴክኒኮች ላይ ሥልጠና ወስደዋል/ወስዳለች? 1. አዎ 2. አይደለም 210 እርሱ/እርሷ በቅርቡ የማደሻ ሥልጠና ወስደዋል/ወስዳለች? 1. አዎ------መቼ----- 2. አይደለም ቁሳቁሶች ተገኝነት በአገልግሎት ላይ አዎ የለም አዎ የለም 211 የቅርብ ጊዜው የቲቢ/ለምጽ ቁጥጥር ፕሮግራም (TLCP) መመሪያ ምክንያቱ የለም ከሆነ? 212 የቅርብ ጊዜው የቲቢ/ለምጽ ቁጥጥር ፕሮግራም (TLCP) የላብራቶሪ መመሪያ 213 የቅርብ ጊዜው የቲቢ ክፍል መዝገብ 214 የቅርብ ጊዜው የቲቢ ሪፈራል እና የዝውውር ቅጽ 215 የቅርብ ጊዜው የአክታ ምርመራ ጥያቄ ቅጽ 216 የቅርብ ጊዜው የሩብ ዓመት የኬዝ ፍለጋ፣ የሕክምና ውጤት እና ሌሎች የቲቢ ቁጥጥር ተግባራት ሪፖርት ቅጽ 217 የቲቢ ገበታ (flip chart) 218 የሳንባ ነቀርሳ (PTB) ምርመራ እና ሕክምና ፍሰት ንድፍ (Flow chart) 219 በተለያዩ ቋንቋዎች የተዘጋጁ የቲቢ ፖስተሮች 220 በተለያዩ ቋንቋዎች የተዘጋጁ የቲቢ ፖስተሮች

ፀረ-ቲቢ መድኃኒቶች ተገኝነት በአገልግሎት ላይ አዎ የለም አዎ የለም 221 RHZE RHZ RH ኤታምቡቶል INH (አይዞኒያዚድ) 222 የመድኃኒት እጥረት አጋጥሞዎት ያውቃል? 1.አዎ 2.የለም 223 አዎ ከሆነ፣ ለምን ያህል ጊዜ? 1. ከአንድ ሳምንት ያነሰ 2. አንድ ሳምንት ገደማ 3. ሁለት ሳምንት ገደማ 4. ከሁለት ሳምንት በላይ 224 የመጀመሪያ ጊዜ ያለቀ/የመጀመሪያ ጊዜ የገባ (FEFO/FIFO) አሰራርን ይተገብራሉ? 1. አዎ 2. አይደለም 225 የመድኃኒት ፍላጎትዎን እንዴት ይወስናሉ? 1. ስሌት 2. ግምት 3. ከፍተኛ ባለሥልጣናት ለእኛ ይወስናሉ 4. ሌላ (ይግለጹ) የላብራቶሪ ዕቃዎች ተገኝነት በአገልግሎት ላይ አዎ የለም አዎ የለም 226 እንደ ኤክስፐርት ኤምቲቢ/አርአይኤፍ (Xpert MTB/RIF) ያሉ በዓለም ጤና ድርጅት የሚመከሩ ፈጣን ሞለኪውላር ምርመራዎች (mWRDs)? 227 ባይኖኩላር ኤሌክትሪክ/ቀን ብርሃን ማይክሮስኮፕ 228 ዛይሊን (ቶሉይን) 229 የማጥለቅ ዘይት (Immersion oil) ከጠብታ ጋር 230 የአክታ ማጠራቀሚያ

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በጣም ጥሩ! ከዚህ በታች የቀረቡት መጠይቆች ወደ አማርኛ ተተርጉመዋል።

ቅጽ I: የላብራቶሪ አገልግሎቶች

250. በጤና ተቋሙ የላብራቶሪ አገልግሎት አለ? 1. አዎ____, 2. የለም ____
251. መልስዎ አዎ ከሆነ፣ የኤኤፍቢ (AFB) ምርመራ ይከናወናል? 1. አዎ_____ 2. አይከናወንም_____
252. ባለፈው ዓመት የተደረጉ የኤኤፍቢ (AFB) ምርመራዎች ጠቅላላ ብዛት።_____
253. ከነዚህ ውስጥ ውጤታቸው ፖዘቲቭ (Positive) የሆነ የኤኤፍቢ (AFB) ምርመራዎች ጠቅላላ ብዛት።_____
254. ባለፈው ዓመት የላብራቶሪ አገልግሎት የተጠቀሙ ታካሚዎች ጠቅላላ ብዛት።_____
255. ለጥያቄ 250 መልስዎ አዎ ከሆነ፣ እንደ ኤክስፐርት ኤምቲቢ/ሪፍ (Xpert MTB/RIF) ያሉ በዓለም ጤና ድርጅት የሚመከሩ ሞለኪውላር ፈጣን የምርመራ ዘዴዎች (mWRDs) ይከናወናሉ? 1. አዎ____, 2. አይከናወኑም____
256. ባለፈው ዓመት የተደረጉ የሞለኪውላር ፈጣን የምርመራ ዘዴዎች (mWRDs) ጠቅላላ ብዛት? _____
257. ከነዚህ ውስጥ ውጤታቸው ፖዘቲቭ/የተገኘባቸው (positive/detected) የሞለኪውላር ፈጣን የምርመራ ዘዴዎች (mWRDS) ጠቅላላ ብዛት? _____

ቅጽ II. የአገልግሎት አሰጣጥ/ሂደት ምልከታ ዝርዝር

የአገልግሎት ሰጪ እና የታካሚ መስተጋብር: 300. አገልግሎት ሰጪው ታካሚውን በወዳጅነት/በትህትና ሰላምታ ይሰጣል? 1. አዎ, 2. አይሰጥም. 301. ታካሚው በውሳኔ አሰጣጥ ሂደት ውስጥ ይሳተፋል? 1. አዎ, 2. አይሳተፍም. 302. አገልግሎት ሰጪው እና ታካሚው አንድ አይነት ቋንቋ ይናገራሉ? 1. አዎ, 2. አይናገሩም.

የመረጃ አቅርቦት: 304. አገልግሎት ሰጪው መድሃኒቶቹን እንዴት መውሰድ እንዳለበት ያብራራል? 1. አዎ, 2. አያብራራም. 305. አገልግሎት ሰጪው ለቀጣይ ህክምና መቼ መመለስ እንዳለበት ያብራራል? 1. አዎ, 2. አያብራራም. 306. አገልግሎት ሰጪው የመድሃኒት ህክምናውን በትክክል መከታተል አስፈላጊ መሆኑን ያብራራል? 1. አዎ, 2. አያብራራም. 307. አገልግሎት ሰጪው የክትትል የአክታ ምርመራ መቼ እንደሚደረግ ያብራራል? 1. አዎ, 2. አያብራራም. 308. አገልግሎት ሰጪው ማንኛውም የቲቢ ምልክት እና

ምልክቶች ያለበትን የቤተሰብ አባል/ጎረቤት ወደ ጤና ተቋሙ እንዲያመጣ ይመክራል? 1. አዎ, 2. አይመክርም. 309. አገልግሎት ሰጪው ታካሚውን ከህክምናው ጋር በተያያዘ ስጋት/ጥያቄ እንዳለው ይጠይቃል? 1. አዎ, 2. አይጠይቅም. 310. ታካሚው አገልግሎት ሰጪውን ከህክምናው ጋር በተያያዘ ማንኛውንም መረጃ/ጥያቄ ይጠይቃል? 1. አዎ, 2. አይጠይቅም. 311. መልስዎ አዎ ከሆነ፣ አገልግሎት ሰጪው ለደንበኛው ጥያቄ ምላሽ ሰጥቷል? 1. አዎ, 2. አልሰጠም.

የቁሳቁስ አቅርቦት/ሁኔታ: 312. አገልግሎት ሰጪው ወንበር እና ጠረጴዛ አለው? 1. አዎ, 2. የለውም. 313. ታካሚው በግል/በድብቅ መታየት ይችላል? 1. አዎ, 2. አይችልም. 314. ሁሉም ታካሚዎች ህክምና እየጠበቁ መቀመጥ ይችላሉ? 1. አዎ, 2. አይችሉም. 315. በቲቢ ክሊኒኮች ውስጥ በቂ የውሃ መጠን ይገኛል? 1. አዎ, 2. አይገኝም.

ቅጽ III. የጤና ባለሙያ ቃለ መጠይቅ /ጥራት ነክ

400. የጤና ተቋሙ አብዛኛውን ጊዜ መድሃኒቶችን እና አቅርቦቶችን ከየት ያገኛል? 1. ከክልል ጤና ቢሮ (RHB). 3. መንግስታዊ ካልሆኑ ድርጅቶች (NGO). 2. ከፌደራል ጤና ጥበቃ ሚኒስቴር (FMOH)
401. መድሃኒቶች እና አቅርቦቶች አብዛኛውን ጊዜ እንዴት ይቀበላሉ? 1. ወደ ተቋሙ ይደርሳል 2. ከአቅራቢው ይወሰዳል
402. የአቅርቦቶች መዘግየት ዋነኛ ምክንያት ምንድነው? (የሚመለከተውን ሁሉ ይምረጡ)
403. በቂ መጓጓዣ አለመኖር
404. የአስተዳደር ችግሮች
405. በቂ ሰራተኛ አለመኖር
406. የገንዘብ ችግሮች
407. መደበኛ ተቆጣጣሪ/ሱፐርቫይዘር አለዎት? 1. አዎ, 2. የለኝም (መልስዎ 'የለኝም' ከሆነ ወደ ጥያቄ 408 ይለፉ)
408. ለተቆጣጣሪ/ሱፐርቫይዘር ጉብኝቶች መርሃ ግብር አለዎት? 1. አዎ, 2. የለኝም
409. ከተቆጣጣሪ/ሱፐርቫይዘር ጉብኝት ስንት ጊዜ አግኝተዋል? - ባለፉት 6 ወራት ውስጥ _____ (የጊዜ ብዛት) - ባለፉት 12 ወራት ውስጥ _____ (የጊዜ ብዛት)
410. ተቆጣጣሪዎ/ሱፐርቫይዘርዎ ለመጨረሻ ጊዜ ሲቆጣጠርዎት ምን አደረገ/ች? (የሚመለከተውን ሁሉ ይምረጡ)
411. አቅርቦቶችን (መድሃኒቶች፣ የላብራቶሪ እቃዎች፣ ወዘተ) አድርሷል
412. የቲቢ መመዝገቢያ ቅጽን ተመልክቷል
413. የቲቢ ታካሚዎችን ህክምና አሰጣጥ ተመልክቷል
414. በጤና ባለሙያው የተዘጋጁ ሪፖርቶችን ገምግሟል
415. ለጤና ባለሙያው ወቅታዊ መረጃዎችን አጋርቷል
416. ከጤና ባለሙያዎች ጋር በችግሮች ላይ ተወያይቷል
417. ሀ. ከዚያ የቁጥጥር ክፍለ ጊዜ ግብረመልስ አግኝተዋል? 1. አዎ, 2. አላገኘሁም ለ. አዎ ከሆነ፣ በምን መልክ?
418. የቁጥጥር መዝገብ 2. የቃል ሪፖርት 3. የጽሑፍ ሪፖርት

419. ስራዎን በሚሰሩበት ጊዜ የሚያጋጥሙዎት በጣም አስቸጋሪ ችግሮች ምንድን ናቸው? (የሚመለከተውን ሁሉ ይምረጡ)

420. የስልጠና እጥረት 2. የሰራተኛ እጥረት (ዝውውር/ልቀት) 3. ደካማ የመገናኛ ዘዴ

421. ደካማ የስራ አካባቢ 5. ታካሚዎች ወደ ጤና ተቋሙ አይመጡም

422. የቁጥጥር እጥረት (በአፈጻጸም ላይ ግብረመልስ አለመስጠት) 7. በቂ ያልሆነ (ደካማ) የመጓጓዣ ስርዓት

423. የአቅርቦቶች እና/ወይም የክምችት እጥረት (የጤና ተቋም፣ መኖሪያ) 9. ተገቢ ያልሆነ የስራ ሰዓት

424. እነዚህን ችግሮች ከተቆጣጣሪዎ/ሱፐርቫይዘርዎ ጋር ተወያይተዋል? 1. አዎ 2. አልተወያየሁም

425. ባለፉት 12 ወራት ውስጥ በቲቢ መቆጣጠሪያ እንቅስቃሴዎች ላይ ስልጠናዎችን አግኝተዋል? 1. አዎ 2. አላገኘሁም

426. የቲቢ በሽታን የተጠረጠሩ ሰዎችን እንዴት ይመረምራሉ/ይገመግማሉ? 1. አክታን በመሰብሰብ ለኤኤፍቢ (AFB) ማይክሮስኮፒ ምርመራ መላክ, 2. ሰፋ ያለ የሕመም ወሰን የሚሸፍኑ አንቲባዮቲኮችን በመስጠት መሞከር, 3. ለምርመራ ወደ ከፍተኛ የጤና ተቋም መላክ, 4. ሞለኪውላር ፈጣን የምርመራ ዘዴዎችን (mWRDs) በመጠቀም 5 .ሌሎች (ይግለጹ)

427. ለተጠረጠሩ ጉዳዮች የአክታ መሰብሰብ እና ምርመራ ለማድረግ ምን ዓይነት ሂደቶችን ይከተላሉ? 1. ወዲያውኑ አክታን መሰብሰብ እና ለቀጣዩ ቀን ቀጠሮ መስጠት, 2. ታካሚው በሚቀጥሉት ሶስት ጠዋቶች አክታውን እንዲያመጣ ቀጠሮ መስጠት, 3. ወዲያው-ወዲያው (spot-spot)

428. የመጨረሻውን ምርመራ እንዴት ይወስናሉ?

429. የአክታ ማይክሮስኮፒ ምርመራ ቲቢን የሚያመለክት ከሆነ, 2. የተጠረጠሩት ታካሚዎች ለሰፋ ያለ የሕመም ወሰን ለሚሸፍኑ አንቲባዮቲኮች ምላሽ ካልሰጡ,

430. የኤክስሬይ ግኝቶች ቲቢን የሚያመለክቱ ከሆነ, 4. ከሌላ የጤና ተቋም ሪፈር ተደርጎ ከመጣ. 5. በሞለኪውላር ፈጣን የምርመራ ዘዴዎች (mWRDs) 6. ሌሎች (ይግለጹ)

431. የታካሚውን የህክምና ክትትል (compliance) እንዴት ይቆጣጠራሉ?

432. በየቀኑ የመመዝገቢያ ቅጾችን በመሙላት, 2. በየወሩ የቀሩትን በመፈተሽ (በቀጣይ ህክምና (continuation phase) ላይ ላሉት), 3. ምንም የመቆጣጠሪያ ዘዴ የለም.

433. የቀሩትን ታካሚዎች (absentees) እንዴት ይመልሳሉ/ይከታተላሉ? (የሚመለከተውን ሁሉ ይምረጡ) 1. የእሱን/ሷን የቅርብ ሰው ማነጋገር,

434. ወዲያውኑ ለተቆጣጣሪዬ/ሱፐርቫይዘሬ ሪፖርት ማድረግ, 3. ለታካሚው ወረዳ አስተዳዳሪ/የአገር ሽማግሌዎች መንገር, 4. በሌሎች ታካሚዎች በኩል መረጃ መላክ, 5. ምንም አለማድረግ

435. በቲቢ መቆጣጠሪያ እንቅስቃሴዎች ውስጥ የእርስዎ ሚና ምንድነው ብለው ያስባሉ? (የሚመለከተውን ሁሉ ይምረጡ) 1. ለታካሚዎች እና ለማህበረሰቡ የጤና ትምህርት መስጠት (ስለ ቲቢ), 2. የተጠረጠሩ ጉዳዮችን ለምርመራ መላክ/መገምገም, 3. በሽታን መርምሮ ማከም, 4. የቀሩ ታካሚዎችን መመለስ/መከታተል, 5. የታካሚ መረጃዎችን መያዝ, 6. የእንቅስቃሴ ሪፖርቶችን በወቅቱ ማቅረብ

436. በከፍተኛ የህክምና ወቅት (intensive phase) ለታካሚዎ የፀረ-ቲቢ መድሃኒቶችን እንዴት ይሰጣሉ? 1. በክትትል ስር. 2. በቤት ውስጥ እንዲወስዱ መድሃኒቶችን መስጠት እና ሲጨርሱ እንዲመለሱ መንገር. 3. ሌሎች (ይግለጹ)

437. የቲቢ መቆጣጠሪያ እንቅስቃሴ ሪፖርትን መቼ ያቀርባሉ? 1. በየወሩ, 2. በየሩብ ዓመቱ, 3. በየስድስት ወሩ,

438. በየዓመቱ, 5. በተቆጣጣሪ/ሱፐርቫይዘር ሲጠየቁ.

ቅጽ IV. በአማራ ክልል ምስራቅ ጎጃም ዞን የጤና ተቋማት ውስጥ የሚሰጠውን የዶትስ (DOTS) አገልግሎት ተገቢነት ለመገምገም የተዘጋጀ መጠይቅ /የሰነድ ግምገማ/

የጤና ተቋሙ ስም _____ 500. የታካሚው የቲቢ መለያ ቁጥር። 1. _____ 2. አልተመዘገበም ---- 501. የታካሚው ጾታ። 1. ወንድ 2. ሴት 3. አልተመዘገበም ----- 502. የታካሚው ዕድሜ። 1. _____ 2. አልተመዘገበም ----- 503. የመጀመሪያው የኤኤፍቢ (AFB) ምርመራ ውጤት 1. ፖዘቲቭ (Positive). 2. ነጌቲቭ (Negative). 3. አልተሰራም/አልተመዘገበም ----- 504. የታካሚው ክብደት 1. _____ 2. አልተመዘገበም --- 505. የታካሚው የበሽታ ምደባ 1. በአክታ ምርመራ የተረጋገጠ የሳንባ ነቀርሳ (Smear positive PTB) 3. ከሳንባ ውጭ ያለ የቲቢ በሽታ (EPTB) 2. በአክታ ምርመራ ያልተረጋገጠ የሳንባ ነቀርሳ (Smear negative PTB) 4. ለብዙ መድሃኒቶች የለየ የቲቢ በሽታ (MDR) 5. አልተመዘገበም --/ 506. የታካሚው ምድብ 1. አዲስ 2. ከሌላ ቦታ የመጣ 3. ያገረሸበት 4. ህክምና ያልተሳካለት .5. ክትትል ያቋረጠ . 6. አልተመዘገበም. 7. ሌሎች (ይግለጹ) 507. በከፍተኛ የህክምና ወቅት (intensive phase) የተሰጠው ህክምና 1. _____ 2. አልተመዘገበም ------- 508. በከፍተኛ የህክምና ወቅት (intensive phase) የተሰጠው የመድሃኒት መጠን 1. _____ 2. አልተመዘገበም ------- 509. በህክምናው በ2ኛው ወር የተገኘው የአክታ ምርመራ ውጤት 1. ፖዘቲቭ (Positive). 2. ነጌቲቭ (Negative). 3. አልተሰራም/አልተመዘገበም 510. በህክምናው በሁለተኛው ወር የታካሚው ክብደት 1. _____ 2. አልተመዘገበም ---- 511. በቀጣይ የህክምና ወቅት (continuation phase) የተሰጡ መድሃኒቶች 1. _____ 2. አልተመዘገበም --- 512. በቀጣይ የህክምና ወቅት (continuation phase) የተሰጠው የመድሃኒት መጠን 1. _____ 2. አልተመዘገበም ---- 513. በህክምናው በ5ኛው እና በ7ኛው/11ኛው ወር የኤኤፍቢ (AFB) ምርመራ ተደርጓል? 1. አዎ 2. አልተደረገም---ወደ ጥያቄ 516 ይለፉ 514. መልስዎ አዎ ከሆነ፣ ውጤቱ 1. ፖዘቲቭ (Positive). 2. ነጌቲቭ (Negative). /---/ 515. የታካሚው የህክምና ውጤት 1. የዳነ .2 ክትትል ያቋረጠ .3. ህክምና ያጠናቀቀ 4. ወደ ሌላ ቦታ የተላከ. 5. የሞተ .6. ያልታወቀ 7. ህክምና ያልተሳካለት 516. የመመዝገቢያ ቅጹ ሙሉነት 1. የተሟላ 2. ያልተሟላ

በጣም ጥሩ! ይህ ቅጽ VI እና ተያያዥ ክፍሎቹ ወደ አማርኛ እንደሚከተለው ተተርጉመዋል።

መጠይቅ

ተ.ቁ	**ጥያቄዎች**	**የምላሽ አማራጮች**	**ኮድ**
	አጠቃላይ መረጃ		
600	ጾታ	1. ወንድ ---- 2. ሴት	

601	የታካሚው ዕድሜ	_____ (በዓመት / ለህጻናት በወር)
602	የጋብቻ ሁኔታ	1. ያላገባ/ች 2. የተፋታ/ች 3. ያገባ/ች 4. ባል/ሚስት የሞተበት/ባት
603	የትምህርት ደረጃ	1. ያልተማረ/ች 2) ከ6-12ኛ ክፍል 3. ማንበብና መጻፍ የሚችል/የምትችል 4) ከ12ኛ ክፍል በላይ 5. ከ1-6ኛ ክፍል
604	ሃይማኖት	1. ሙስሊም 2. ፕሮቴስታንት 3. ኦርቶዶክስ ክርስቲያን 4. ሌላ (ይግለጹ)
605	የስራ መስክ	1. አርብቶ አደር 4. የግል ንግድ 2. ከፊል አርሶ አደር 5. ነጋዴ 3. የመንግስት ሰራተኛ 6. ሌላ (ይግለጹ)
606	ወርሃዊ ገቢዎ በግምት ስንት ብር ነው?	_____ (በብር)
607	ለጉብኝትዎ ወጪ ያወጣሉ?	1. አዎ 2. አላወጣም ---- (ወደ 610 ይለፉ)
608	አዎ ከሆነ፣ ለምን ዓላማ?	1. መጓጓዣ 4. የላብራቶሪ አገልግሎት 2. ምግብና መቀበያ 5. ሌላ (ይግለጹ) 3. የአገልግሎት ሰጪ ክፍያ
609	ከዚህ በፊት ለቲቢ አገልግሎት ይህንን ክሊኒክ ጎብኝተው ያውቃሉ?	1. አዎ 2. አላውቅም
610	ህክምና (Rx) ከጀመሩ ምን ያህል ጊዜ ሆነዎት?	_____ (በቀናት/ሳምንታት/ወራት/ዓመታት)
611	በህክምናው ላይ ችግር አለብዎት?	1. አዎ 2. የለብኝም
612	የቲቢ ክሊኒኩን በቀላሉ ማግኘት ይችላሉ?	1. አዎ 2. አልችልም
613 ሀ	ወደ ቲቢ ክሊኒኩ ለመድረስ በተለምዶ ምን ያህል ጊዜ (ደቂቃ/ሰዓት) ይፈጅብዎታል?	_____ (ደቂቃዎች/ሰዓታት)
613 ለ	ወደ ቲቢ ክሊኒኩ በተለምዶ በምን መንገድ ይሄዳሉ?	1. በእግር 3. በመኪና 2. በቃሬዛ 4. ሌላ (ይግለጹ)
	ድርጅታዊ ጉዳዮች:	
614	ለህክምናዎ የቲቢ ክሊኒኩ የጊዜ ሰሌዳ (የስራ ሰዓታት) በቂ መሆኑ ምን ያህል ያረካዎታል?	1. ረክቻለሁ 2. በጣም ረክቻለሁ 3. ገለልተኛ ነኝ/አላውቅም 4. አልረካሁም 5. በጣም አልረካሁም
615	ወደ ቲቢ ክሊኒኩ ከደረሱ በኋላ ህክምናዎን ለማግኘት በመጠበቅ ባሳለፉት ጊዜ ምን ያህል ረክተዋል?	1. ረክቻለሁ 2. በጣም ረክቻለሁ 3. ገለልተኛ ነኝ/አላውቅም 4. አልረካሁም 5. በጣም አልረካሁም
615 ሀ	ለመጠበቅ ምን ያህል ጊዜ (ደቂቃ/ሰዓት)	_____ (ደቂቃዎች/ሰዓታት)

	ፈጅቶብዎታል?	
615 ለ	ዛሬ ምን ያህል ጊዜ ጠብቀዋል?	_____ (ደቂቃዎች/ሰዓታት)
616	በጉብኝትዎ ወቅት የጤና ባለሙያው ከእርስዎ ጋር ባሳለፈው ጊዜ ምን ያህል ረክተዋል?	1. ረክቻለሁ 2. በጣም ረክቻለሁ 3. ገለልተኛ ነኝ/አላውቅም 4. አልረካሁም 5. በጣም አልረካሁም
	የተቋሙ እቃዎች እና አቅርቦቶች:	
617	የመጠበቂያ ቦታው አጠቃላይ ንፅህና?	1. ረክቻለሁ 2. አልረካሁም 3. ገለልተኛ ነኝ/አላውቅም
618	የመጠበቂያ ቦታው አጠቃላይ ምቾት?	1. ረክቻለሁ 2. በጣም ረክቻለሁ 3. ገለልተኛ ነኝ/አላውቅም 4. አልረካሁም 5. በጣም አልረካሁም
619	አገልግሎት የተቀበሉበት የምርመራ ክፍል/ቦታ አጠቃላይ ንፅህና?	1. ረክቻለሁ 2. በጣም ረክቻለሁ 3. ገለልተኛ ነኝ/አላውቅም 4. አልረካሁም 5. በጣም አልረካሁም
620	የጤና ባለሙያዎች እርስዎን ለማከም ወይም ለመመርመር የተጠቀሙበት ማንኛውም መሳሪያ ወይም መገልገያ ንፅህና?	1. ረክቻለሁ 2. በጣም ረክቻለሁ 3. ገለልተኛ ነኝ/አላውቅም 4. አልረካሁም 5. በጣም አልረካሁም
621	በህክምና ጊዜዎ የመድሃኒት እጥረት አጋጥሞዎት ያውቃል?	1. አዎ 2. አላጋጠመኝም (አላጋጠመኝም ከሆነ ወደ ጥያቄ 624 ይለፉ)
622	አዎ ከሆነ፣ ለምን ያህል ጊዜ?	_____ (በቀናት/በወራት)
623	ምን እርምጃ ወሰዱ?	1. ወደ ሌላ የጤና ተቋም ተላኩ 2. ከግል ክሊኒክ ገዙ 3. ህክምና አቋረጡ 4. ሌላ (ይግለጹ)
	የአገልግሎት መኖር/አለመኖር:	
624	በጉብኝቶችዎ ወቅት ችግርዎን ለማከም የሚያስፈልጉዎት ሁሉም አገልግሎቶች በቲቢ ክሊኒኩ ይገኙ ነበር?	1. አዎ 2. አይገኙም ነበር
625	ካልሆነ፣ እባክዎ ፍላጎትዎን ለማሟላት አስፈላጊ የሆኑ ነገር ግን በክሊኒኩ የማይገኙ አገልግሎቶችን ይዘርዝሩ?	1. የጤና ባለሙያ በቲቢ ክሊኒክ አለመኖር 2. የኤክስሬይ አገልግሎት እጥረት 3. የላብራቶሪ አገልግሎት መቋረጥ 4. የፀረ-ቲቢ መድሃኒቶች መቋረጥ
	የአገልግሎት ሰጪው የግለሰባዊ ባህሪያት:	
626	**በሚከተሉት ምን ያህል ረክተዋል:**	
626.1	በጉብኝትዎ ወቅት በአገልግሎት ሰጪው የተሰጠዎት ክብር?	1. ረክቻለሁ 2. በጣም ረክቻለሁ 3. ገለልተኛ ነኝ/አላውቅም 4. አልረካሁም 5. በጣም

		አልረካሁም
626.2	በምርመራ እና በህክምና ወቅት ግላዊነትን ለማረጋገጥ የተወሰዱ እርምጃዎች?	1. ረክቻለሁ 2. በጣም ረክቻለሁ 3. ገለልተኛ ነኝ/አላውቅም 4. አልረካሁም 5. በጣም አልረካሁም
	የጤና ባለሙያዎች የሙያ ብቃት እና ክህሎት:	
627	**በሚከተሉት ምን ያህል ረክተዋል:**	
627.1	የአገልግሎት ሰጪው ችግርዎን በማከም ረገድ ያለው ክህሎት እና ችሎታ?	1. ረክቻለሁ 2. በጣም ረክቻለሁ 3. ገለልተኛ ነኝ/አላውቅም 4. አልረካሁም 5. በጣም አልረካሁም
627.2	ስለ ችግርዎ የተሰጠዎት የመረጃ ሙሉነት?	1. ረክቻለሁ 2. በጣም ረክቻለሁ 3. ገለልተኛ ነኝ/አላውቅም 4. አልረካሁም 5. በጣም አልረካሁም
	ወጪ:	
628	በህክምና ጊዜዎ በሚያወጡት ወጪ ምን ያህል ረክተዋል?	1. ረክቻለሁ 2. በጣም ረክቻለሁ 3. ገለልተኛ ነኝ/አላውቅም 4. አልረካሁም 5. በጣም አልረካሁም
	የህክምናው ውጤታማነት:	
629.	በቲቢ ክሊኒክ የተቀበሉት አገልግሎት ችግርዎን በመፍታት ረገድ ያለው ውጤታማነት?	1. ረክቻለሁ 2. በጣም ረክቻለሁ 3. ገለልተኛ ነኝ/አላውቅም 4. አልረካሁም 5. በጣም አልረካሁም
629.1	የቲቢ ምልክቶች መቀነስ?	1. ረክቻለሁ 2. በጣም ረክቻለሁ 3. ገለልተኛ ነኝ/አላውቅም 4. አልረካሁም 5. በጣም አልረካሁም
629.2	የስነ-ልቦና ደህንነት ስሜት?	1. ረክቻለሁ 2. በጣም ረክቻለሁ 3. ገለልተኛ ነኝ/አላውቅም 4. አልረካሁም 5. በጣም አልረካሁም
629.3	የአካል ደህንነት ስሜት?	1. ረክቻለሁ 2. በጣም ረክቻለሁ 3. ገለልተኛ ነኝ/አላውቅም 4. አልረካሁም 5. በጣም አልረካሁም
629.2 (*ተደጋጋሚ ቁጥር*)	ከጤና ባለሙያው የተቀበሉት አጠቃላይ አገልግሎት?	1. ረክቻለሁ 2. በጣም ረክቻለሁ 3. ገለልተኛ ነኝ/አላውቅም 4. አልረካሁም 5. በጣም አልረካሁም
630	በዚህ የጤና ተቋም የሚሰጡ አገልግሎቶችን ለሌላ ሰው ይመክራሉ?	1. አዎ 2. አልመክርም

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የስምምነት ሂደት (CONSENT):

ሰላም፣ ስሜ _____ ይባላል። እኔ የደብረ ማርቆስ ዩኒቨርሲቲ ጤና ሳይንስ ኮሌጅ የህብረተሰብ ጤና ክፍል በአማራ ክልል ምስራቅ ጎጃም ዞን የጤና ተቋማት የዶትስ (DOTS) አገልግሎት ጥራትን ለመገምገም በሚያደርገው ጥናት ላይ በመረጃ ሰብሳቢነት እየሰራሁ ነው። እርስዎ በዚህ የጤና ተቋም የህክምና አገልግሎት ከሚከታተሉ ታካሚዎች መካከል በዕጣ ስለተመረጡ፣ በዚህ ጥናት ላይ እንዲሳተፉ በትህትና እጠይቃለሁ። ከዚህ ጤና ተቋም ስለሚያገኙት አገልግሎት ጥቂት ጥያቄዎችን እጠይቅዎታለሁ። ስምዎ በዚህ ቅጽ ላይ አይጻፍም እና ለሚሰጡኝ ማንኛውም መረጃ ማንነትዎ በምንም መልኩ አይገለጽም። ለመመለስ የማይፈልጉትን ማንኛውንም ጥያቄ መመለስ አይጠበቅብዎትም እናም ይህን ቃለ መጠይቅ በፈለጉት ጊዜ ማቋረጥ ይችላሉ። የሚሰጡት መልሶች ሙሉ በሙሉ ሚስጥራዊ ናቸው። ለእነዚህ ጥያቄዎች የሚሰጡት ቅን መልሶች በክልሉ ያለውን የዶትስ አገልግሎት ጥራት በተሻለ ለመረዳት ይረዳናል። ቃለ መጠይቁ ከ20-25 ደቂቃ ያህል ብቻ ይወስዳል።

ስለዚህ በጥናቱ ለመሳተፍ ፈቃደኛ ነዎት?

አዎ _____. (ወደ ሚቀጥለው ገጽ ይለፉ) አይደለሁም _____. (አመስግነው ወደ ሚቀጥለው ታካሚ ይለፉ)

የጤና ተቋሙ ስም እና ዓይነት_____ ቃለ መጠይቅ አድራጊ _____ ቃለ መጠይቅ የተደረገበት ቀን _____ ተቆጣጣሪ/ሱፐርቫይዘር: ስም _____, ፊርማ _____

6.1 መጠይቆች

ቅጽ I መጠይቅ በአማራ ክልላዊ መንግስት ምሥራቅ ጎጃም ዞን የጤና ተቋማት የቲቢ ክሊኒኮችን አደረጃጀት /structure ለመገምገም የተዘጋጀ።

ተ.ቁ	ጥያቄዎች	የምላሽ አማራጮች	ኮድ
1	በጤና ተቋሙ ውስጥ ያሉ የጤና ባለሙያዎች ብዛት	1). ኤምዲ _____ 2. ኤችአ _____ 3. ነርሶች _____ 4. ላብራቶሪ ቴክኒሻን _____ 5. ፋርማሲ ቴክኒሻን ____ 6.ተላላፊ በሽታዎች ስፔሻሊስት 7. ሌላ (ይግለጹ)--------	200
2	በቲቢ ቁጥጥር ተግባራት ላይ ሥልጠና ያገኙ የጤና ባለሙያዎች ብዛት	1. አንድ. 2. ሁለት .3. ሦስት እና ከዚያ በላይ 4. በጭራሽ.	201
3	በቲቢ ክሊኒክ ውስጥ የሙሉ ጊዜ ሠራተኛ ተመድቧል?	1. አዎ 2. አይደለም---ወደ 205 ይዝለሉ	202
4	አዎ ከሆነ፣ እርሱ/እርሷ በቲቢ ቁጥጥር ተግባራት ላይ ሥልጠና ወስደዋል/ወስዳለች? 1. አዎ 2. አይደለም	1. አዎ 2. አይደለም	203
5	እርሱ/እርሷ በቅርቡ ስለ ቲቢ ቁጥጥር ተግባራት የማደሻ ሥልጠና ወስደዋል/ወስዳለች? 1. አዎ------መቼ------- 2. አይደለም	1. አዎ------መቼ------- 2. አይደለም	204
6	በጤና ተቋማችሁ የላብራቶሪ ቴክኒሻን አለ?	1. አዎ 2. አይደለም	205
7	አዎ ከሆነ፣ እርሱ/እርሷ በአሲድ ፈጣን ባሲሊ (AFB) ቴክኒኮች ላይ ሥልጠና ወስደዋል/ወስዳለች?	1. አዎ 2. አይደለም	206
8	እርሱ/እርሷ በቅርቡ የማደሻ ሥልጠና ወስደዋል/ወስዳለች?	1. አዎ----መቼ----- 2. አይደለም	207
9	እንደ ኤክስፐርት	1. አዎ 2. አይደለም	208

	ኤምቲቢ/አርአይኤፍ (Xpert MTB/RIF) ያሉ በዓለም ጤና ድርጅት የሚመከሩ ፈጣን ሞለኪውላር ምርመራዎች (mWRDs) አሉዎት?					
10	ለጥያቄ 205 እና 208 መልስዎ አዎ ከሆነ፣ እርሱ/እርሷ እንደ ኤክስፐርት ኤምቲቢ/አርአይኤፍ (Xpert MTB/RIF) ባሉ በዓለም ጤና ድርጅት የሚመከሩ ፈጣን ሞለኪውላር ምርመራዎች (mWRDs) ቴክኒኮች ላይ ሥልጠና ወስደዋል/ወስዳለች?	1.አዎ 2. አይደለም				209
11	እርሱ/እርሷ በቅርቡ የማደሻ ሥልጠና ወስደዋል/ወስዳለች?	1. አዎ------መቼ----- 2. አይደለም				210
ቁሳቁሶች		ተገኝነት		በአገልግሎት ላይ		
		አዎ	የለም	አዎ	የለም	
12	የቅርብ ጊዜው የቲቢ/ለምጽ ቁጥጥር ፕሮግራም (TLCP) መመሪያ ምክንያቱ የለም ከሆነ? ቅጽ					211
13	የቅርብ ጊዜው የቲቢ/ለምጽ ቁጥጥር ፕሮግራም (TLCP) የላብራቶሪ መመሪያ					212
14	የቅርብ ጊዜው የቲቢ ክፍል መዝገብ					213
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16	የቅርብ ጊዜው የአክታ ምርመራ ጥያቄ					215
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18	የቲቢ ገበታ (flip chart)					217
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20	በተለያዩ ቋንቋዎች የተዘጋጁ የቲቢ ፖስተሮች					219
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21	RHZE					
	RHZ					
	RH					
	Ethambutol					
	INH					
	222 የመድኃኒት እጥረት አጋጥሞዎት ያውቃል?				1.አዎ 2.የለም	
	223 አዎ ከሆነ፣ ለምን ያህል ጊዜ?				1. ከአንድ ሳምንት ያነሰ 2. አንድ ሳምንት ገደማ 3. ሁለት ሳምንት ገደማ 4. ከሁለት ሳምንት በላይ	
	224 የመጀመሪያ ጊዜ ያለቀ/የመጀመሪያ ጊዜ የገባ (FEFO/FIFO) አሰራርን ይተገብራሉ?				1. አዎ 2. አይደለም?	

	5 የመድኃኒት ፍላጎትዎን እንዴት ይወስናሉ?			1. ስሌት 2. ግምት 3. ከፍተኛ ባለሥልጣናት ለእኛ ይወስናሉ 4. ሌላ (ይግለጹ)		
የላብራቶሪ ዕቃዎች						
22	226 እንደ ኤክስፐርት ኤምቲቢ/አርአይኤፍ (Xpert MTB/RIF) ያሉ በዓለም ጤና ድርጅት የሚመከሩ ፈጣን ሞለኪውላር ምርመራዎች (mWRDs)?					
23	227 ባይኖኩላር ኤሌክትሪክ/ቀን ብርሃን ማይክሮስኮፕ					
24	228 ዛይሊን (ቶሉይን)					
25	229 የማጥለቅ ዘይት (Immersion oil) ከጠብታ ጋር					
26	230 የአክታ ማጠራቀሚያ ኩባያዎች					
26	231 ጓንት					
27	232 የጥጥ እምቡጥ (Cotton wool swab)					
28	233 ጥጥ/ጋውዝ					
29	234 ቀለም ያለው እስክሪብቶ-ሰማያዊ/ቀይ					

30	235 ስላይዶች					
31	236 የስላይድ መያዣ					
32	237 የሽቦ ቀለበት/የእንጨት አፕሊኬተር					
33	238 ቡንሰን በርነር/የእሳት ነበልባል መብራት					
34	239 ስላይድን ለመያዝ እና ለማስተካከል የሚያገለግል ፎርሴፕስ					
35	240 የማቅለሚያ ሪኤጀንት					
36	241 የማጣሪያ ወረቀት እና የመስታወት ጠርሙሶች					
37	242 ለማቅለም የሚያገለግል የስላይድ መደርደሪያ					
38	243 የውሃ ማጠቢያ ከሌለ ገንዳ					
39	244 የሚፈስ ውሃ ከሌለ የውሃ ማጣሪያ ማሰሮ ከቧንቧ ጋር					
40	245 የማንቂያ ሰዓት					
41	246 የቆሻሻ ማጠራቀሚያ (ብረት ክዳን ያለው) 247 የተመረመሩ ስላይዶችን					
42	247 የተመረመሩ ስላይዶችን ለማስቀመጥ ሳጥን					

43	248 የውሃ ባልዲ					
44	249 ፀረ-ተባይ-5% ፊኖል ወይም 10% ሶዲየም ሃይፖክሎራይድ።					
ቅጽ I: የላብራቶሪ አገልግሎቶች						
	በጤና ተቋሙ የላብራቶሪ አገልግሎት አለ?				1. አዎ____, 2. የለም ____	
	መልስዎ አዎ ከሆነ፣ የኤኤፍቢ (AFB) ምርመራ ይከናወናል?				1. አዎ_____ 2. አይከናወንም_____	
	ባለፈው ዓመት የተደረጉ የኤኤፍቢ (AFB) ምርመራዎች ጠቅላላ ብዛት።_____					
	ከነዚህ ውስጥ ውጤታቸው ፖዘቲቭ (Positive) የሆነ የኤኤፍቢ (AFB) ምርመራዎች ጠቅላላ ብዛት።_____					
	ባለፈው ዓመት የላብራቶሪ አገልግሎት የተጠቀሙ ታካሚዎች ጠቅላላ ብዛት።_____					
	ለጥያቄ 250 መልስዎ አዎ ከሆነ፣ እንደ ኤክስፐርት ኤምቲቢ/ሪፍ (Xpert MTB/RIF) ያሉ በዓለም ጤና ድርጅት የሚመከሩ ሞለኪውላር ፈጣን የምርመራ ዘዴዎች (mWRDs) ይከናወናሉ?				1. አዎ____, 2. አይከናወኑም____	
	ባለፈው ዓመት የተደረጉ የሞለኪውላር ፈጣን የምርመራ ዘዴዎች (mWRDs) ጠቅላላ ብዛት? _____					
ቅጽ II. የአገልግሎት አሰጣጥ/ሂደት ምልከታ ዝርዝር						
የአገልግሎት ሰጪ እና የታካሚ መስተጋብር:						
	300. አገልግሎት ሰጪው ታካሚውን በወዳጅነት/በትህትና ሰላምታ ይሰጣል?	1. አዎ, 2. አይሰጥም.				

	301. ታካሚው በውሳኔ አሰጣጥ ሂደት ውስጥ ይሳተፋል?	1. አዎ, 2. አይሳተፍም.	
	302. አገልግሎት ሰጪው እና ታካሚው አንድ አይነት ቋንቋ ይናገራሉ?	1. አዎ, 2. አይናገሩም.	
	የመረጃ አቅርቦት:		
	304. አገልግሎት ሰጪው መድሃኒቶቹን እንዴት መውሰድ እንዳለበት ያብራራል?.	1. አዎ, 2. አያብራራም	
	305. አገልግሎት ሰጪው ለቀጣይ ህክምና መቼ መመለስ እንዳለበት ያብራራል?	1. አዎ, 2. አያብራራም.	
	306. አገልግሎት ሰጪው የመድሃኒት ህክምናውን በትክክል መከታተል አስፈላጊ መሆኑን ያብራራል?	1. አዎ, 2. አያብራራም.	
	307. አገልግሎት ሰጪው የክትትል የአክታ ምርመራ መቼ እንደሚደረግ ያብራራል?.	1. አዎ, 2. አያብራራም	
	308. አገልግሎት ሰጪው ማንኛውም የቲቢ ምልክት እና ምልክቶች ያለበትን የቤተሰብ አባል/ጎረቤት ወደ ጤና ተቋሙ እንዲያመጣ ይመክራል?	1. አዎ, 2. አይመክርም.	
	309. አገልግሎት ሰጪው ታካሚውን ከህክምናው ጋር በተያያዘ ስጋት/ጥያቄ እንዳለው ይጠይቃል?	1. አዎ, 2. አይጠይቅም.	

	310. ታካሚው አገልግሎት ሰጪውን ከህክምናው ጋር በተያያዘ ማንኛውንም መረጃ/ጥያቄ ይጠይቃል?	1. አዎ, 2. አይጠይቅም.	
	311. መልስዎ አዎ ከሆነ፣ አገልግሎት ሰጪው ለደንበኛው ጥያቄ ምላሽ ሰጥቷል?	1. አዎ, 2. አልሰጠም.	
	የቁሳቁስ አቅርቦት/ሁኔታ:		
	312. አገልግሎት ሰጪው ወንበር እና ጠረጴዛ አለው?	1. አዎ, 2. የለውም.	
	313. ታካሚው በግል/በድብቅ መታየት ይችላል?	1. አዎ, 2. አይችልም.	
	314. ሁሉም ታካሚዎች ህክምና እየጠበቁ መቀመጥ ይችላሉ?	1. አዎ, 2. አይችሉም.	
	315. በቲቢ ክሊኒኮች ውስጥ በቂ የውሃ መጠን ይገኛል?	1. አዎ, 2. አይገኝም.	
	ቅጽ IV. በአማራ ክልል ምስራቅ ጎጃም ዞን የጤና ተቋማት ውስጥ የሚሰጠውን የዶትስ (DOTS) አገልግሎት ተገቢነት ለመገምገም የተዘጋጀ መጠይቅ /የሰነድ ግምገማ/		
	500. የታካሚው የቲቢ መለያ ቁጥር	1. _____ 2. አልተመዘገበም ----	
	501. የታካሚው ጾታ።	1. ወንድ 2. ሴት 3. አልተመዘገበም -----	
	502. የታካሚው ዕድሜ። ----	1. _____ 2. አልተመዘገበም	

	503. የመጀመሪያው የኤኤፍቢ (AFB) ምርመራ ውጤት	1. ፖዘቲቭ (Positive). 2. ነጌቲቭ (Negative). 3. አልተሰራም/አልተመዘገበም ----	
	504. የታካሚው ክብደት	1. _____ 2. አልተመዘገበም ---	
	505. የታካሚው የበሽታምደባ	1. በአክታ ምርመራ የተረጋገጠ የሳንባ ነቀርሳ (Smear positive PTB) 2 . ከሳንባ ውጭ ያለ የቲቢ በሽታ (EPTB) 3. በአክታ ምርመራ ያልተረጋገጠ የሳንባ ነቀርሳ (Smear negative PTB) 4. ለብዙ መድሃኒቶች የተላመደ የቲቢ በሽታ (MDR) 5. አልተመዘገበም ---	
	506. የታካሚው ምድብ	1. አዲስ 2. ከሌላ ቦታ የመጣ 3. ያገረሸበት 4. ህክምና ያልተሳካለት .5. ክትትል ያቋረጠ . 6. አልተመዘገበም. 7. ሌሎች (ይግለጹ)	
	507. በከፍተኛ የህክምና ወቅት (intensive phase) የተሰጠው ህክምና	1. _____ 2. አልተመዘገበም -------	
	509. በህክምናው በ2ኛው ወር የተገኘው የአክታ ምርመራ ውጤት	1. ፖዘቲቭ (Positive). 2. ነጌቲቭ (Negative). 3. አልተሰራም/አልተመዘገበም	
	510. በህክምናው በሁለተኛው ወር የታካሚው ክብደት	1. _____ 2. አልተመዘገበም ----	
	511. በቀጣይ የህክምና ወቅት (continuation phase) የተሰጡ መድሃኒቶች	1. _____ 2. አልተመዘገበም ---	
	513. በህክምናው በ5ኛው እና በ7ኛው/11ኛው ወር የኤኤፍቢ (AFB) ምርመራ ተደርጓል?	1. አዎ 2. አልተደረገም---ወደ ጥያቄ 516 ይለፉ	
	514. መልስዎ አዎ ከሆነ፣ ውጤቱ	1. ፖዘቲቭ (Positive). 2. ነጌቲቭ (Negative). /---/	
	515. የታካሚው የህክምና ውጤት	1. የዳነ .2 ክትትል ያቋረጠ .3. ህክምና ያጠናቀቀ 4. ወደ ሌላ ቦታ የተላከ. 5. የሞተ .6. ያልታወቀ 7. ህክምና ያልተሳካለት	
	516. የመመዝገቢያ ቅጹ ሙሉነት	1. የተሟላ 2. ያልተሟላ	

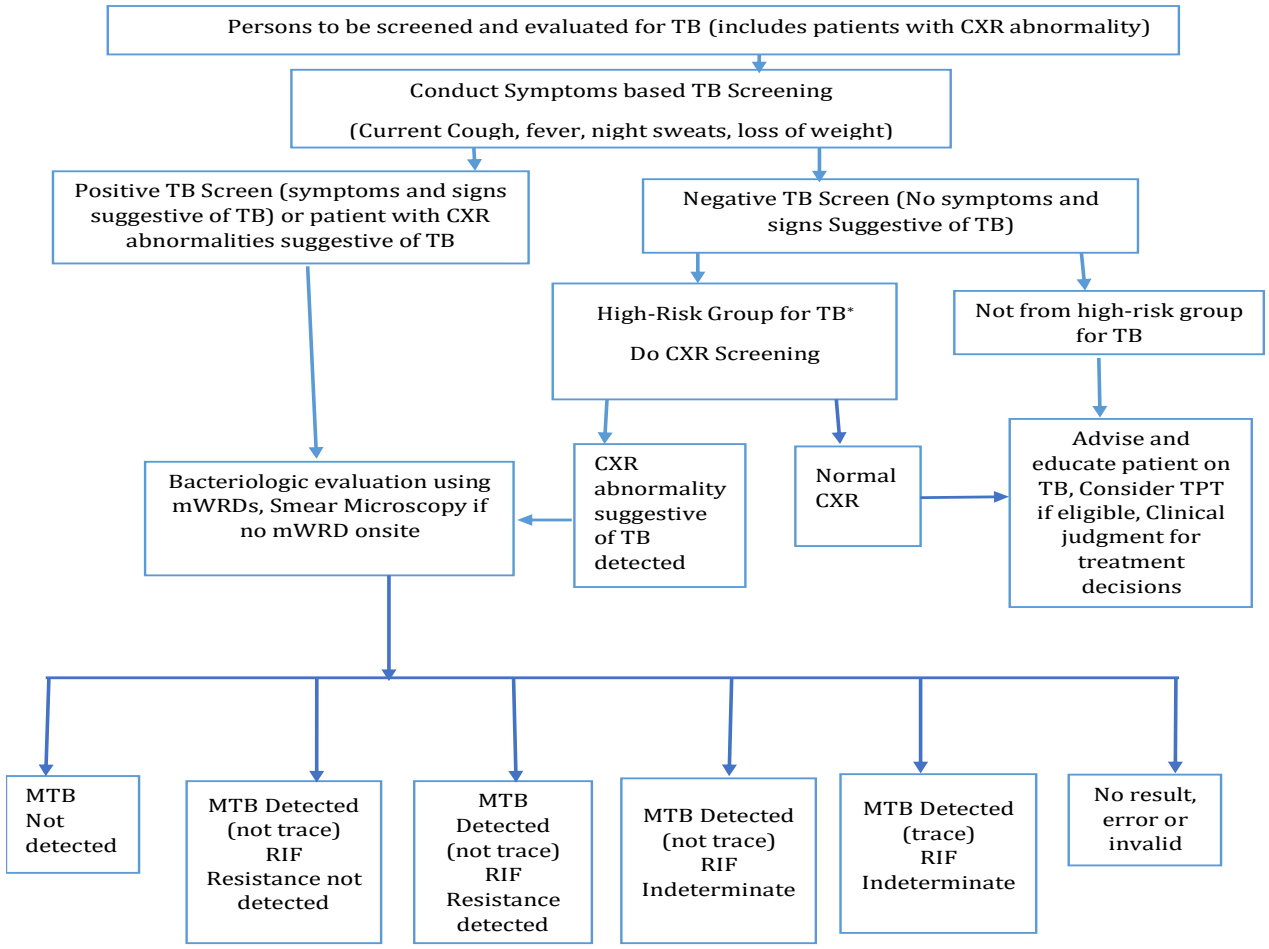
	ቅጽ VI. በአማራ ክልል ምስራቅ ጎጃም ዞን የጤና ተቋማት ውስጥ የሚሰጠውን የቲቢ አገልግሎት በተመለከተ የደንበኞችን የእርካታ ደረጃ/የአገልግሎት ጥራት ለመገምገም የተዘጋጀ መጠይቅ።		
600	ጾታ	1. ወንድ ---- 2. ሴት	
601	የታካሚው ዕድሜ	_____ (በዓመት / ለህጻናት በወር)	
602	የጋብቻ ሁኔታ	1. ያላገባ/ች 2. የተፋታ/ች 3. ያገባ/ች 4. ባል/ሚስት የሞተበት/ባት	
603	የትምህርት ደረጃ	1. ያልተማረ/ች 2) ከ6-12ኛ ክፍል 3. ማንበብና መጻፍ የሚችል/የምትችል 4) ከ12ኛ ክፍል በላይ 5. ከ1-6ኛ ክፍል	
604	ሃይማኖት	1. ሙስሊም 2. ፕሮቴስታንት 3. ኦርቶዶክስ ክርስቲያን 4. ሌላ (ይግለጹ)	
605	የስራ መስክ	1. አርብቶ አደር 4. የግል ንግድ 2. ከፊል አርሶ አደር 5. ነጋዴ 3. የመንግስት ሰራተኛ 6. ሌላ (ይግለጹ)	
606	ወርሃዊ ገቢዎ በግምት ስንት ብር ነው?	_____ (በብር)	
607	ለጉብኝትዎ ወጪ ያወጣሉ?	1. አዎ 2. አላወጣም ---- (ወደ 610 ይለፉ)	
608	አዎ ከሆነ፣ ለምን ዓላማ?	1. መጓጓዣ 4. የላብራቶሪ አገልግሎት 2. ምግብና መቀበያ 5. ሌላ (ይግለጹ) 3. የአገልግሎት ሰጪ ክፍያ	
609	ከዚህ በፊት ለቲቢ አገልግሎት ይህንን ክሊኒክ ጎብኝተው ያውቃሉ?	1. አዎ 2. አላውቅም	
610	ህክምና (Rx) ከጀመሩ ምን ያህል ጊዜ ሆነዎት?	_____ (በቀናት/ሰምንታት/ወራት/ዓመታት)	
611	በህክምናው ላይ ችግር አለብዎት?	1. አዎ 2. የለብኝም	

612	የቲቢ ክሊኒኩን በቀላሉ ማግኘት ይችላሉ?	1. አዎ 2. አልችልም	
613 ሀ	ወደ ቲቢ ክሊኒኩ ለመድረስ በተለምዶ ምን ያህል ጊዜ (ደቂቃ/ሰዓት) ይፈጅብዎታል?	_____ (ደቂቃዎች/ሰዓታት)	
613 ለ	ወደ ቲቢ ክሊኒኩ በተለምዶ በምን መንገድ ይሄዳሉ?	1. በእግር 3. በሞኪና 2. በቃሬዛ 4. ሌላ (ይግለጹ)	
	ድርጅታዊ ጉዳዮች:		
614	ለህክምናዎ የቲቢ ክሊኒኩ የጊዜ ሰሌዳ (የስራ ሰዓታት) በቂ መሆኑ ምን ያህል ያረካዎታል?	1. ረክቻለሁ 2. በጣም ረክቻለሁ 3. ገለልተኛ ነኝ/አላውቅም 4. አልረካሁም 5. በጣም አልረካሁም	
615	ወደ ቲቢ ክሊኒኩ ከደረሱ በኋላ ህክምናዎን ለማግኘት በመጠበቅ ባሳለፉት ጊዜ ምን ያህል ረክተዋል?	1. ረክቻለሁ 2. በጣም ረክቻለሁ 3. ገለልተኛ ነኝ/አላውቅም 4. አልረካሁም 5. በጣም አልረካሁም	
615 ሀ	ለመጠበቅ ምን ያህል ጊዜ (ደቂቃ/ሰዓት) ፈጅቶብዎታል?	_____ (ደቂቃዎች/ሰዓታት)	
615 ለ	ዛሬ ምን ያህል ጊዜ ጠብቀዋል?	_____ (ደቂቃዎች/ሰዓታት)	
616	በጉብኝትዎ ወቅት የጤና ባለሙያው ከእርስዎ ጋር ባሳለፈው ጊዜ ምን ያህል ረክተዋል?	1. ረክቻለሁ 2. በጣም ረክቻለሁ 3. ገለልተኛ ነኝ/አላውቅም 4. አልረካሁም 5. በጣም አልረካሁም	
	የተቋሙ እቃዎች እና አቅርቦቶች:		
617	የመጠበቂያ ቦታው አጠቃላይ ንፅህና?	1. ረክቻለሁ 2. አልረካሁም 3. ገለልተኛ ነኝ/አላውቅም	
618	የመጠበቂያ ቦታው አጠቃላይ ምቾት?	1. ረክቻለሁ 2. በጣም ረክቻለሁ 3. ገለልተኛ ነኝ/አላውቅም 4. አልረካሁም 5. በጣም አልረካሁም	
619	አገልግሎት የተቀበሉበት የምርመራ ክፍል/ቦታ	1. ረክቻለሁ 2. በጣም ረክቻለሁ 3. ገለልተኛ ነኝ/አላውቅም 4. አልረካሁም 5. በጣም አልረካሁም	

	አጠቃላይ ንፅህና?		
620	የጤና ባለሙያዎች እርስዎን ለማከም ወይም ለመመርመር የተጠቀሙበት ማንኛውም መሳሪያ ወይም መገልገያ ንፅህና?	1. ረክቻለሁ 2. በጣም ረክቻለሁ 3. ገለልተኛ ነኝ/አላውቅም 4. አልረካሁም 5. በጣም አልረካሁም	
621	በህክምና ጊዜዎ የመድሃኒት እጥረት አጋጥሞዎት ያውቃል?	1. አዎ 2. አላጋጠመኝም (አላጋጠመኝም ከሆነ ወደ ጥያቄ 624 ይለፉ)	
622	አዎ ከሆነ፣ ለምን ያህል ጊዜ?	_____ (በቀናት/በወራት)	
623	ምን እርምጃ ወሰዱ?	1. ወደ ሌላ የጤና ተቋም ተላኩ 2. ከግል ክሊኒክ ገዙ 3. ህክምና አቋረጡ 4. ሌላ (ይግለጹ)	
	የአገልግሎት መኖር/አለመኖር:		
624	በጉብኝቶችዎ ወቅት ችግርዎን ለማከም የሚያስፈልጉዎት ሁሉም አገልግሎቶች በቲቢ ክሊኒኩ ይገኙ ነበር?	1. አዎ 2. አይገኙም ነበር	
625	ካልሆነ፣ እባክዎ ፍላጎትዎን ለማሟላት አስፈላጊ የሆኑ ነገር ግን በክሊኒኩ የማይገኙ አገልግሎቶችን ይዘርዝሩ?	1. የጤና ባለሙያ በቲቢ ክሊኒክ አለመኖር 2. የኤክስሬይ አገልግሎት እጥረት 3. የላብራቶሪ አገልግሎት መቋረጥ 4. የፀረ-ቲቢ መድሃኒቶች መቋረጥ	
	የአገልግሎት ሰጪው የግለሰባዊ ባህሪያት:		
626	**በሚከተሉት ምን ያህል ረክተዋል:**		
626.1	በጉብኝትዎ ወቅት በአገልግሎት ሰጪው የተሰጠዎት ክብር?	1. ረክቻለሁ 2. በጣም ረክቻለሁ 3. ገለልተኛ ነኝ/አላውቅም 4. አልረካሁም 5. በጣም አልረካሁም	
626.2	በምርመራ እና በህክምና ወቅት ግላዊነትን ለማረጋገጥ የተወሰዱ እርምጃዎች?	1. ረክቻለሁ 2. በጣም ረክቻለሁ 3. ገለልተኛ ነኝ/አላውቅም 4. አልረካሁም 5. በጣም አልረካሁም	

	የጤና ባለሙያዎች የሙያ ብቃት እና ክህሎት:		
627	**በሚከተሉት ምን ያህል ረክተዋል:**		
627.1	የአገልግሎት ሰጪው ችግርዎን በማከም ረገድ ያለው ክህሎት እና ችሎታ?	1. ረክቻለሁ 2. በጣም ረክቻለሁ 3. ገለልተኛ ነኝ/አላውቅም 4. አልረካሁም 5. በጣም አልረካሁም	
627.2	ስለ ችግርዎ የተሰጠዎት የመረጃ ሙሉነት?	1. ረክቻለሁ 2. በጣም ረክቻለሁ 3. ገለልተኛ ነኝ/አላውቅም 4. አልረካሁም 5. በጣም አልረካሁም	
	ወጪ:		
628	በህክምና ጊዜዎ በሚያወጡት ወጪ ምን ያህል ረክተዋል?	1. ረክቻለሁ 2. በጣም ረክቻለሁ 3. ገለልተኛ ነኝ/አላውቅም 4. አልረካሁም 5. በጣም አልረካሁም	
	የህክምናው ውጤታማነት:		
629	በቲቢ ክሊኒክ የተቀበሉት አገልግሎት ችግርዎን በመፍታት ረገድ ያለው ውጤታማነት?	1. ረክቻለሁ 2. በጣም ረክቻለሁ 3. ገለልተኛ ነኝ/አላውቅም 4. አልረካሁም 5. በጣም አልረካሁም	
629.1	የቲቢ ምልክቶች መቀነስ?	1. ረክቻለሁ 2. በጣም ረክቻለሁ 3. ገለልተኛ ነኝ/አላውቅም 4. አልረካሁም 5. በጣም አልረካሁም	
629.2	የስነ-ልቦና ደህንነት ስሜት?	1. ረክቻለሁ 2. በጣም ረክቻለሁ 3. ገለልተኛ ነኝ/አላውቅም 4. አልረካሁም 5. በጣም አልረካሁም	
629.3	የአካል ደህንነት ስሜት?	1. ረክቻለሁ 2. በጣም ረክቻለሁ 3. ገለልተኛ ነኝ/አላውቅም 4. አልረካሁም 5. በጣም አልረካሁም	
629.4	ከጤና ባለሙያው የተቀበሉት አጠቃላይ አገልግሎት?	1. ረክቻለሁ 2. በጣም ረክቻለሁ 3. ገለልተኛ ነኝ/አላውቅም 4. አልረካሁም 5. በጣም አልረካሁም	
630	በዚህ የጤና ተቋም የሚሰጡ አገልግሎቶችን ለሌላ ሰው ይመክራሉ?	1. አዎ 2. አልመክርም	

8.3 Annex-3: National diagnostic algorithm for all presumptive TB cases



High-Risk group for TB includes: Household contacts of TB/DR-TB, including children, People who live in urban slums, Prisoners, Health workers, People residing or working in congregate settings, Persons with under nutrition, PLHIV, Diabetics, People who smoke or use alcohol harmfully, Persons above 65 years of age, Refugees and returnees, Pastoralist communities, Internally displaced persons, Homeless/street persons and families.

8.4 Annex-4: Analysis outputs

1. Infrastructure related characteristics of the health facilities that provide service for adult tuberculosis patients in East Gojjam Zone, North West Ethiopia, 2025

Variables	Frequency	Percent
Separate room available for TB clinic		
Yes	29	100.0
The provider have a chair and table		
Yes	29	100.0
The patient be able to be attended in privacy		
Yes	15	51.7
No	14	48.3
All patients able to sit while waiting for treatment		
Yes	9	31.0
No	20	69.0
Adequate volume of water available in the Tb clinics		
Yes	9	31.0
No	20	69.0

2. Availability of trained stuffs in the health facilities that provide service for adult tuberculosis patients in East Gojjam Zone, North West Ethiopia, 2025

Variables	No	%
Number of health workers trained on TB control activities		
One	20	69.0
Two	5	17.2
Three and above	4	13.8
Availability of a full time staff assigned in the TB clinic		
Yes	29	100.0
Ever trained on Tb control activities		
Yes	29	100.0
Received refreshment trainings on Tb control activities within 12 month		
Yes	2	6.9
No	27	93.1
Availability of laboratory technician		
Yes	29	100.0

Variables	No	%
Ever train on AFB techniques		
Yes	26	89.7
No	3	10.3
Received refreshment trainings within 12 month		
Yes	2	6.9
No	27	93.1

3. Availability of latest version registers, manuals, guidelines and posters in the health facilities that provide service for adult tuberculosis patients in East Gojjam Zone, North West Ethiopia, 2025

Variables	No	%
TLCP manual		
Yes	29	100.0
TLCP lab. Manual		
Yes	29	100.0
Tb unit registry		
Yes	29	100.0
Tb referral & transfer form		
Yes	29	100.0
Tb sputum examination request form		
Yes	29	100.0
Quarterly Tb control activity report forms		
Yes	29	100.0
Tb flip chart		
Yes	29	100.0
Flow chart for diagnosis and treatment of PTB		
Yes	29	100.0
Tb posters in different language		
Yes	29	100.0

4. Availability of laboratory and supplies in the health facilities that provide service for adult tuberculosis patients in East Gojjam Zone, North West Ethiopia, 2025

Variables		**No**	**%**
Molecular WHO recommended Rapid Diagnostics (mWRDs) such as the Xpert MTB/RIF assay	Yes	4	13.8
	No	25	86.2
Microscope –Binocular -Electrical/Daylight	Yes	29	100.0
Diethyl ether	Yes	29	100.0
Xylene (toluene)	Yes	29	100.0
Immersion oil with a dropper	Yes	29	100.0
Sputum cups	Yes	29	100.0
Gloves	Yes	29	100.0
Cotton wool swab	Yes	29	100.0
Cotton/gauze	Yes	29	100.0
Pen-blue/red	Yes	29	100.0
Slides	Yes	29	100.0
Slide holder	Yes	29	100.0
Wire loop/Wooden applicator	Yes	29	100.0
Bunsen burner/Spiral Lamp Burner	Yes	29	100.0
Forceps for holding slide and fixing	Yes	29	100.0
Staining reagent	Yes	29	100.0
Filter paper and glass flasks	Yes	29	100.0
Slide rack for staining	Yes	29	100.0
Basin if there is no Sink	Yes	29	100.0
Water filter can with a tap if no running water	Yes	29	100.0
Alarm clock	Yes	29	100.0
Waste receptacle (metal with lid)	Yes	29	100.0
Box for keeping examined slides	Yes	29	100.0
Bucket for water	Yes	29	100.0
Laboratory services available in the health facility	Yes	29	100.0
AFB done	Yes	21	86.2
	No	4	13.8
WHO recommended Rapid Diagnostics (mWRDs) such as the Xpert MTB/RIF assay done	Yes	4	13.8
	No	25	86.2

5. Availability of anti-tuberculosis drugs in the health facilities that provide service for adult tuberculosis patients in East Gojjam Zone, North West Ethiopia, 2025

Variables	**No**	**%**
Rifampicin Isoniazid Pyrazinamide Ethambutol		
Yes	24	82.8
No	5	17.2
Rifampicin isoniazid Pyrazinamide		
Yes	24	82.8
No	5	17.2
Rifampicin isoniazid		
Yes	24	82.8
No	5	17.2
Ethambutol		
Yes	26	89.7
No	3	10.3
INH		
Yes	24	82.8
No	5	17.2
Ever experienced shortage of drugs		
No	22	75.9
Yes	7	24.1
If yes, for how long		
Two months	2	28.6
Three to six month	2	28.6
More than six month	3	42.9
Practice FEFO/FIFO		
Yes	29	100.0
Way of determining drug requirements		
Calculation	5	17.2
RRF	24	82.8

6. Communication between health care providers and tuberculosis patients at the health facilities that provide service for adult tuberculosis patients in East Gojjam Zone, North West Ethiopia, 2025

Variables	Frequency	Percent
Provider great the patient in a friendly/polite manner		
Yes	23	79.3
No	6	20.7
Patient participate in part of decision making process		
Yes	10	34.5
No	19	65.5
Provider and patient speak the same language		
Yes	25	86.2
No	4	13.8

7. Counseling of tuberculosis patients at the health facilities that provide service for adult tuberculosis patients in East Gojjam Zone, North West Ethiopia, 2025

Variables	No	%
Provider explain how to take the drugs		
Yes	29	100.0
Provider explain when to return for the next treatment		
Yes	29	100.0
Provider explain the need to comply with the drug treatment		
Yes	29	100.0
Provider explain when follow-up sputum microscopy is done		
Yes	29	100.0
Provider advices the patient to bring any family member/neighborhood having sign and symptoms of Tb to the Health facility		
Yes	17	58.6
No	12	41.4
Provider ask the patient for any concerns regarding the treatment		
Yes	10	34.5
No	19	65.5
Patient ask the provider for any pieces of information regarding the treatment		
Yes	16	55.2
No	13	44.8
Provider respond to the client's question		

Variables	No	%
Yes	16	100.0

8. Use of latest registers, manuals, guidelines and formats among health care providers at the health facilities that provide service for adult tuberculosis patients in East Gojjam Zone, North West Ethiopia, 2025

Variables		No	%
Latest version of TLCP manual use	Yes	29	100.0
Latest version of TLCP lab. Manual use	Yes	29	100.0
Latest version of Tb unit registry use	Yes	29	100.0
Latest Tb referral & transfer form use	Yes	29	100.0
Latest version of Tb sputum examination request form use	Yes	29	100.0
Latest version of quarterly Tb control activity report form use	Yes	29	100.0

9. Laboratory tests done for adult tuberculosis patients at the health facilities that provide service for adult tuberculosis patients in East Gojjam Zone, North West Ethiopia, 2025

Variables	No	%
First acid fast bacilli test		
Yes	194	79.2
No	51	20.8
First gene expert test		
Yes	50	20.4
No	195	79.6
Sputum smear test on the second month of treatment		
Yes	95	38.8
No	150	61.2
AFB done on the 5th and 6/7/11th of treatment		
Yes	89	36.3
No	156	63.7

10. Treatment of adult tuberculosis patients at the health facilities that provide service for adult tuberculosis patients in East Gojjam Zone, North West Ethiopia, 2025

Variables	No	%
Treatment given during the intensive phase		
Yes	245	100.0
Dose of the drugs during the intensive phase		
Yes	245	100.0
Drugs given during the continuation phase		
Yes	209	85.3
Not recorded	36	14.7
Dose of the drugs during the continuation phase		
Yes	209	85.3
Not recorded	36	14.7

11. Regular supervision of TB prevention and control activities at the health facilities that provide service for adult tuberculosis patients in East Gojjam Zone, North West Ethiopia, 2025

Variables	No	%
Presence of a regular supervisor		
Yes	24	82.8
No	5	17.2
Presence of schedule for supervisory visits		
No	29	100.0
Frequency of supervisory visit from a supervisor		
One in six month	4	13.8
Two in six month	4	13.8
More than 3 in six month	6	20.7
No visit	15	51.7
Activities supervised		
Observed Tb registry form	6	42.9
All TB prevention and control activities	8	57.1

12. Documentation of TB prevention and control activities at the health facilities that provide service for adult tuberculosis patients in East Gojjam Zone, North West Ethiopia, 2025

Variables	No	%
Demographic characteristics		
Recorded	245	100.0
First acid fast bacilli result		
Recorded	194	79.2
Not recorded	51	20.8
First gene expert result		
Recorded	50	20.4
Not recorded	195	79.6
Weight of patient at start		
Recorded	226	92.2
Not recorded	19	7.8
Patient classification		
Recorded	245	100.0
Patient category		
Recorded	240	98.0
Not recorded	5	2.0
Treatment given during the intensive phase		
Recorded	245	100.0
Dose of the drugs during the intensive phase		
Recorded	245	100.0
Sputum smear result on the second month of treatment		
Recorded	95	38.8
Not recorded	150	61.2
Weight of patient at second month of treatment		
Recorded	200	81.6
Not recorded	45	18.4
Drugs given during the continuation phase		
Recorded	209	85.3
Not recorded	36	14.7
Dose of the drugs during the continuation phase		
Recorded	209	85.3
Not recorded	36	14.7

Variables	No	%
AFB tests on the 5th and 6/7/11th of treatment		
Recorded	245	100.0
Treatment outcomes of the patient		
Recorded	240	98.0
Not recorded	5	2.0

13. TB detection rate the health facilities that provide service for adult tuberculosis patients in East Gojjam Zone, North West Ethiopia, 2025

Activities	Frequency
Total number of AFB tests done in the last one year	773
Total number of AFB tests with positives detected in the last one year	52
Total number of Molecular WHO recommended Rapid Diagnostics (mWRDs) tests done in the last one year	3256
Total number of Molecular WHO recommended Rapid Diagnostics (mWRDS) tests with positives detected in the last one year	171
Total number of laboratory tests done in the last one year	4029
Total number of positives detected in the last one year	223
Case detection rate	5.5%

14. Satisifaction score of patients

Satisfaction score	Frequency	Percent	Cumulative Percent
33.00	6	0.9	0.9
35.00	6	0.9	1.9
38.00	18	2.8	4.7
46.00	18	2.8	7.6
56.00	29	4.6	12.2
60.00	36	5.7	17.9
61.00	30	4.7	22.6

62.00	12	1.9	24.5
64.00	48	7.6	32.1
65.00	29	4.6	36.7
67.00	18	2.8	39.6
68.00	11	1.7	41.3
69.00	29	4.6	45.9
70.00	18	2.8	48.7
71.00	18	2.8	51.6
72.00	42	6.6	58.2
73.00	18	2.8	61.1
74.00	18	2.8	63.9
76.00	42	6.6	70.6
77.00	12	1.9	72.5
78.00	18	2.8	75.3
79.00	54	8.5	83.9
80.00	18	2.8	86.7
81.00	18	2.8	89.6
82.00	18	2.8	92.4
84.00	12	1.9	94.3
85.00	36	5.7	100.0
Total	632	100.0	

15. Bivariable binary logistic regression analysis output

15.1. *Category of health facility (First)*

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B)	
								Lower	Upper
Step 1[a]	Type of health facility(1)	.676	.188	13.001	1	.000	1.967	1.362	2.841
	Constant	-.119	.092	1.666	1	.197	.888		

a. Variable(s) entered on step 1: Type of health facility.

15.2. Age of the patient (Last)

Variables in the Equation									
								95% C.I.for EXP(B)	
		B	S.E.	Wald	df	Sig.	Exp(B)	Lower	Upper
Step 1[a]	Age			70.015	3	.000			
	Age(1)	2.033	.260	61.053	1	.000	7.636	4.586	12.716
	Age(2)	1.340	.240	31.110	1	.000	3.818	2.384	6.114
	Age(3)	.671	.236	8.055	1	.005	1.956	1.231	3.109
	Constant	-.934	.178	27.576	1	.000	.393		
a. Variable(s) entered on step 1: Age.									

15.3. Marital status of patient (First)

Variables in the Equation									
								95% C.I.for EXP(B)	
		B	S.E.	Wald	df	Sig.	Exp(B)	Lower	Upper
Step 1[a]	Marital status(1)	.388	.161	5.832	1	.016	1.474	1.076	2.018
	Constant	-.161	.118	1.839	1	.175	.852		
a. Variable(s) entered on step 1: Marital status.									

15.4. Educational status (First)

Variables in the Equation									
								95% C.I.for EXP(B)	
		B	S.E.	Wald	df	Sig.	Exp(B)	Lower	Upper
Step 1[a]	Educational status			46.182	2	.000			
	Educational status(1)	.711	.242	8.662	1	.003	2.037	1.268	3.272
	Educational status(2)	1.493	.232	41.469	1	.000	4.451	2.825	7.011
	Constant	-.894	.198	20.411	1	.000	.409		
a. Variable(s) entered on step 1: Educational status.									

15.5. Monthly income (First)

Variables in the Equation									
								95% C.I.for EXP(B)	
		B	S.E.	Wald	df	Sig.	Exp(B)	Lower	Upper
Step 1[a]	Monthly income			48.003	3	.000			
	Monthly income(1)	.225	.233	.929	1	.335	1.252	.793	1.979

	Monthly income(2)	.740	.231	10.271	1	.001	2.095	1.333	3.294
	Monthly income(3)	1.705	.269	40.022	1	.000	5.500	3.243	9.327
	Constant	-.565	.177	10.189	1	.001	.568		
a. Variable(s) entered on step 1: Monthly income.									

15.6. Presence of visit cost (First)

Variables in the Equation									
								95% C.I.for EXP(B)	
		B	S.E.	Wald	df	Sig.	Exp(B)	Lower	Upper
Step 1[a]	Presence of visit cost(1)	1.491	.174	73.455	1	.000	4.440	3.158	6.244
	Constant	-.564	.109	26.756	1	.000	.569		
a. Variable(s) entered on step 1: Presence of visit cost.									

15.7. Period on treatment (First)

Variables in the Equation									
								95% C.I.for EXP(B)	
		B	S.E.	Wald	df	Sig.	Exp(B)	Lower	Upper
Step 1[a]	Period of TB treatment(1)	.766	.162	22.252	1	.000	2.150	1.564	2.955
	Constant	-.353	.118	8.980	1	.003	.703		
a. Variable(s) entered on step 1: Period of TB treatment.									

15.8. Accessibility of service (Last)

Variables in the Equation									
								95% C.I.for EXP(B)	
		B	S.E.	Wald	df	Sig.	Exp(B)	Lower	Upper
Step 1[a]	Accessibility of TB clinic(1)	1.658	.194	73.384	1	.000	5.250	3.592	7.672
	Constant	-1.119	.166	45.328	1	.000	.327		
a. Variable(s) entered on step 1: Accessibility of TB clinic.									

15.9. Waiting time (Last)

Variables in the Equation							
	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B)

								Lower	Upper
Step 1[a]	Waiting time(1)	1.317	.299	19.341	1	.000	3.731	2.075	6.708
	Constant	-1.139	.287	15.737	1	.000	.320		
a. Variable(s) entered on step 1: Waiting time.									

15.10. Availability of all TB treatment services

Variables in the Equation									
		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B)	
								Lower	Upper
Step 1[a]	Service availability for all TB problem(1)	.608	.161	14.196	1	.000	1.837	1.339	2.521
	Constant	-.276	.118	5.445	1	.020	.759		
a. Variable(s) entered on step 1: Service availability for all TB problem.									

16. Multivariable binary logistic regression analysis output

Variables in the Equation									
								95% C.I.for EXP(B)	
		B	S.E.	Wald	df	Sig.	Exp(B)	Lower	Upper
Step 1[a]	Type of health facility(1)	.658	.241	7.463	1	.006	1.931	1.204	3.095
	Age			28.546	3	.000			
	Age(1)	1.330	.383	12.028	1	.001	3.780	1.783	8.014
	Age(2)	.017	.362	.002	1	.963	1.017	.501	2.065
	Age(3)	-.707	.376	3.527	1	.060	.493	.236	1.031
	Marital status(1)	.783	.276	8.074	1	.004	2.189	1.275	3.757
	Educational status			26.892	2	.000			
	Educational status(1)	.039	.349	.012	1	.912	1.040	.524	2.060
	Educational status(2)	1.331	.370	12.968	1	.000	3.786	1.834	7.813
	Monthly income			47.713	3	.000			
	Monthly income(1)	1.210	.346	12.253	1	.000	3.354	1.703	6.604
	Monthly income(2)	1.828	.402	20.695	1	.000	6.222	2.831	13.678
	Monthly income(3)	2.943	.440	44.628	1	.000	18.965	7.999	44.966
	Presence of visit cost(1)	2.033	.308	43.466	1	.000	7.633	4.172	13.968
	Period on TB treatment(1)	1.646	.297	30.786	1	.000	5.184	2.899	9.270
	Accessibility of TB clinic(1)	1.166	.283	16.931	1	.000	3.211	1.842	5.596
	Waiting time(1)	.900	.386	5.424	1	.020	2.460	1.153	5.246
	Service availability for all TB problem(1)	.176	.291	.366	1	.545	1.193	.674	2.111
	Constant	-6.152	.678	82.275	1	.000	.002		

a. Variable(s) entered on step 1: Type of health facility, Age, Marital status, Educational status, Monthly income, Presence of visit cost, Period on TB treatment, Accessibility of TB clinic, Waiting time, Service availability for all TB problem.