ADDIS ABABA UNIVERSITY

COLLEGE OF HEALTH SCIENCES

SCHOOL OF PUBLIC HEALTH

ASSESSMENT OF CATASTROPHIC HEALTH EXPENDITURE AND COPING STRATEGIES OF MULTI DRUG RESISTANT (MDR) TB PATIENTS IN ADDIS ABABA, ETHIOPIA

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A THESIS TO BE SUBMITTED TO THE GRADUATE PROGRAM OF ADDIS ABABA UNIVERSITY, COLLEGE OF HEALTH SCIENCES, SCHOOL OF PUBLIC HEALTH IN PARTIAL FULFILLMENT FOR THE DEGREE OF MASTER OF GENERAL PUBLIC HEALTH

June. 2023
ADDIS ABABA, ETHIOPIA

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Full title of the research project	Assessment of Catastrophic Health Expenditure and Coping strategies of Multi Drug ResistantTuberculosis (MDR-TB Patients in Addis Ababa, Ethiopia.
Duration of project	From September 2021 to Nov., 2022
Study Area	MDR-TB treatment initiating centers and follow-up Health facilities, Addis Ababa, Ethiopia.
Total Cost of the project	36, 807,827ETB
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We, the undersigned, members of the Board of Examiners of the final open defense by Hiwot Asmerom, have read and evaluated her thesis entitled *"**ASSESSMENT OF CATASTROPHIC HEALTH EXPENDITURE AND COPING STRATEGIES OF MULTI DRUG RESISTANT (MDR) TB PATIENTS IN ADDIS ABABA, ETHIOPIA"** "* This is to verify that the thesis has been accepted in partial fulfillment of the requirements for the Master of Public Health degree in "Masters of General Public Health (GMPH)"

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ABBREVIATION AND ACRONYM

WHO	World Health Organization
TB	Tuberculosis
CBHI	Community Based Health Insurance
MDR-TB	Multi Drug Resistant Tuberculosis
HSTP-II	Health Sector Transformation Plan II
UHC	Universal Health Coverage
SEA	Southeast Asia
LMIC	Lower –and- Middle- Income Countries
IQR	Inter Quartile Range
HIV	Human Immuno Virus
OR	Odds Ration
CI	Confidence Interval
TIC	Treatment Initiation Center
HH	Households
ALERT	All Africa TB and Leprosy Rehabilitation and Treatment Center
OOP	Out of Pocket payment
REC	Research and Ethical Committee

ACKNOWLEDGEMENT

First and for most I would like to thank my Almighty God for keeping me in good health throughout and beyond during accomplishment of this project. Secondly my thanks go to my advisors Prof. Alemayehu Worku and Ms. BerhanTassew for their unreserved support and supervision. Without their l advisorship this work wouldn't have become a reality. Thirdly my appreciation goes to my family all of whom whereby my side particulary my husband Zelalem Kebede. Last but not least; I would like to acknowledge my institution AHRI and supervisors there who have supported in the data collection and with provision of required infrastructure.

EXECUTIVE SUMMARY

Introduction: The World Health Assembly (WHA) in 2014 adopted the World Health Organization's (WHO) END TB strategy containing three pillars among which TB affected families' catastrophic costs to be zero percent by 2030. Tuberculosis (TB), which mostly affects the poorest of the poor, is an example of a disease that can substantially contribute to the disease poverty trap.Even though most countries have aimed to provide the diagnosis and treatment of TB free of charge, a number of studies have found out that patients are still subject to direct and indirect cost due to TB illness and care-seeking, hampering access and putting people at risk of financial ruin or further impoverishment. A number of health care financing schemes have been designed and implemented in Ethiopia. However, the status of catastrophic cost for TB in general and MDR-TB have not been established for the country.

Objective: The objective of this study is to assess catastrophic health expenditure and coping strategies of MDR-TB patients in Addis Ababa.

Methods: Facility based cross-sectional survey to assess catastrophic health expeditures and coping strategies of patients with MDR-TB was employed at two hospitals in Addis Ababa, the leading of which are known TB care and research. All MDR-TB patients being cared for the disease at the time of the survey were identified from the national TB registry for inclusion. For accurate estimation of costs and other associated factors such as coping strategies all MDR-TB patients being treated in two hospitals known for initiating treatment and follow-up for MDR-TB fulfilling the inclusion criteria were part of the survey.

Result: In this survey about 54.3 % of households experienced catastrophic health expenditure more than 20% of their annual household income. To cope with the costs associated with TB care, patients underwent variety of coping mechanisms including about 61 (33%) patients borrowing an estimated average of 5739 birr (108 USD); about 26 (14%) patients selling house properties (mainly household items, land and livestokcs) with the estimated mean market value of the property sold being 21375 birr (403 USD); and about 21 (11.4%) patients undergoing dissavings including withdrawal of money from banks the amoung standing at an average of 55000 ETB (1037 USD).

Conclusion: The catastrophic cost of MDR-TB service Addis Ababa cannot be overlooked, despite the free policy. This study has revealed the incidence of catastrophic health expenditure among households affected by MDR-TB is about 54.3%..

I: INTRODUCTION

1.1. Background

Catastrophic health expenditure have been defined in relation to a households' capacity to pay and the threshold for catastrophic has varied (e.g.from 5% to 20%) of total family income (1–3). Health policy makers have long been concerned with protecting people from the possibility that ill health will lead to catastrophic financial payments and subsequent impoverishment (4). This statement has been reaffirmed by the WHO End TB Strategy, adopted by all WHO Member States in 2014 at the Sixty-seventh World Health Assembly citing that TB aggravates economic burden on the poor (5–7). The WHO END-TB strategy aims to reduce TB incidence by 80% and TB deaths by 90%, as well as achieve 100% protection against catastrophic costs for TB-affected households (5).

Even though TB is not exclusively a disease of the poor, the association between poverty (at societal, community & patient level) and TB is well established and widespread. The link between poverty and TB means that TB affected families from low-and-middle income are at the highest risk of falling in further impoverishment as result of illness and care seeking (8). Tuberculosis (TB), which mostly affects the poorest of the poor, is an example of a disease that can substantially contribute to the poverty trap (8). Even though most countries have aimed to provide the diagnosis and treatment of TB free of charge, a number of studies have found out that patients are still subject to direct and indirect cost due to TB illness and care-seeking, hampering access and putting people at risk of financial ruin or further impoverishment (6,8–10).

Health care financing strategies have been designed and implemented in Ethiopia within the framework of achieving the universal health coverage. These include provision of high-impact interventions free of charge through an exemption program;subsidization of more than 80% of the cost of care in public health facilities; implementation of community-basedhealth insurance (CBHI) schemes; and full subsidization of the very poor through fee waivers for both health servicesand CBHI premiums((11)). However, the status of catastrophic cost for TB in general and MDR-TB in particular have not been established for Ethiopia. Even though the country have registered remarkable progress in reducing mortality and incidence from TB, the status of the third milestone of the END TB strategy that is reducing catastrophic cost to zero by 2030 is not known (11).

Accordingly the HSTP-II of the country which is underway has clearly called for the need for increasing financing to close resource gaps, and intensifying research and innovations as some of the main priorities for prevention and control of TB and leprosy (11).

1.2. Statement of the Problem

The World Health Organization (WHO) has developed a post-2015 Global TB strategy, which highlights the need for all countries to progress towards universal health coverage to ensure universal access to needed health services without financial hardship in paying for them(12). Despite the full commitment of WHO member countries to provide the diagnostic and therapeutic services of tuberculosis free of charges, numerous studies have indicated that TB affected patients and their households are subject to catastrophic costs either as a result of seeking the needed care or during treatment follow-up with the proportion of households facing catastrophic payments varying widely between countries (8–13).

Multidrug-resistant TB (MDR-TB) remains a public health crisis and a health security threat. Only about one in three people with drug resistant TB accessed treatment in 2020(19). Studies have clearly indicated that financial payments by MDR-TB patiens to cover costs related to the diagnosis and treatment of the disease have led to further impoverishment, borrowing many, selling assests and income loss as a consequences of job loss (14,20,21).

According to the WHO global report, close to one in two TB-affected households face costs higher than 20% of their total family income. The world did not reach the milestone of 0% TB patients and their households facing catastrophic costs as a result of TB disease by 2020 (22).

A multi-country study (2016) on socioeconomic impact of MDR-TB in which Ethiopia was included found out that financial burden of MDR-TB is alarming. In Ethiopia, (MDR) TB is also a public health concern as the number of cases increase. Since 2009, a cumulative of 4,906 drug-resistant TB (DR TB) patients were detected and enrolled on second-line drug treatment. As of 2019, there were 59 DR TB treatment initiative centers, and more than 700 treatment follow-up centers providing DR TB treatment services (11,23)

Ethiopia is on track to achieving one of the three targets of the global End TB Strategy: TB incidence has declined by 21% from the 2015 estimate (was against a target of 20%). The incidence of TB in 2015 was 224/100,000 popution. However, progress in reducing TB mortality was only

15% (target was 35%) under HSTP-II. As there is no nationally representative estimate of the catastrophic costs for TB-affected households, the status of progress on the third milestone (i.e catastrophic cost) is not known (11).

Until nationally representative data becomes available on catastrophic cost due to MDR-TB in Ethiopia; the conduct of pocket studies such as this one will help glose the gap.

1.3. Significance of the Study

The Health Sector Transformation Plan-II (HSTP-II) has clearly indicated that data on catastrophic cost of TB that patients could face as a result of diagnosis and treatment is lacking (11). Research and innovations are needed to know the progress towards the END-TB by 2030. Provided Ethiopia lacks national representative study on this regard; this sub-national estimate of health expenditure in MDR-TB will significantly contribute to an effort of having national representative data while the case of Addis Ababa will be addressed. Finding from this study will be published and recommendations will be communicated to the Federal Minsitry of Health for use of available data in an effort to establish national level costs related to the diagnosis and treatment of patients with MDR-TB.

II: LITERATURE REVIEW

2.1. Catastrophic Health Expenditure faced by MDR-TB patients.

Literatures have shown that patients in high TB burden countries are subject to both direct and indirect costs associated with diagnosis and treatment. According to a systematic review by Tanimura et.al in which data from many countries of LMIC were included have shown that financial burden on TB patients because of treatment seeking and follow-up was significant. The review has shown that the mean total costs ranged from $55 to $8198, with an unweighed average of $847. On average, 20% of the total cost was due to direct medical costs, 20% to direct non-medical costs, and 60% to income loss. Half of the total cost was incurred before TB treatment. On average, the total cost was equivalent to 58% of reported annual individual and 39% of reported household income. Cost as percentage of income was particularly high among poor people and those with multidrug-resistant TB. Commonly reported coping mechanisms included taking a loan and selling household items (12).

A study from India in 2018 in which a sample of 102 TB patients included showed the median (IQR) total cost of TB care as US$195 with a direct cost of US$65.3 and indirect cost of US$50.2. Overall, 32.4% of households experienced catastrophic costs due to TB care, significantly higher in patients with HIV coinfection (p = 0.009) and hospitalization (p = 0.009). Pledging jewels and borrowing money were major coping strategies. Cash assistance was the expected remedy from the patient perspective (16).

Another similar study from Pakistan has shown that for TB management expenditures, the median (interquartile range) of total costs by households was Rs. 58,175. At 20% threshold, 67% of TB patient's households were affected by catastrophic costs. The determinants of the catastrophic total cost were as follows: patient/guardian employed (adjusted odds ratio (aOR) = 3.428, patient/guardian the only breadwinner (aOR) = 1.751, follow-up visits at current health facility (aOR) = 1.352, job loss (aOR) = 3.381, and unpaid sick leaves (aOR)= 2.862 (9).

In a prospective cohort study in Indonesia in 2020, catastrophic costs negatively impacted treatment outcomes (adjusted odds ratio [aOR] 4.15. After adjustment, catastrophic costs negatively affected treatment adherence at the 10% and 15% thresholds (aOR 2.11 [95% CI], p = 0.059 and aOR 2.06 [95% CI], p = 0.07). There was no evidence of such an effect at other thresholds (13).

Another study in the same country found out that TB-related services, the median (interquartile range) of total costs incurred by households was 133 USD (55–576); for MDR-TB-related services, it was 2804 USD (1008–4325). The incidence of catastrophic total costs in all TB-affected households was 36% (43% in poor households and 25% in non-poor households). For MDR-TB-affected households, the incidence was 83%. In TB-affected households, the determinants of catastrophic total costs were poor households (adjusted odds ratio [aOR] = 3.7, 95% confidence interval [CI]: being a breadwinner (aOR = 2.9, 95% CI:); job loss (aOR = 21.2; 95% CI); and previous TB treatment (aOR = 2.9; 95% CI). In MDR-TB-affected households, having an income-earning job before diagnosis was the only determinant of catastrophic total costs (aOR = 8.7; 95% CI (15).

A multicounty analysis on household catastrophic health expenditure revealed the proportion of households facing catastrophic payments from out-of-pocket health expenses varied widely between countries. Catastrophic spending rates were highest in some countries in transition, and in certain Latin American countries. Three key preconditions for catastrophic payments were identified: the availability of health services requiring payment, low capacity to pay, and the lack of prepayment or health insurance(7).

A study from Myanmar found out that 60% of TB-affected households faced catastrophic costs in Myanmar. On average, total costs were USD 759, and the largest proportion of this total was accounted for by patient time (USD 365), followed by food costs (USD 200), and medical expenses (USD 130). Low household wealth quintile and undergoing MDR-TB treatment were both significant predictors for households facing catastrophic costs(14).

In India and South Africa, improvements in treatment for drug-sensitive and multidrug-resistant tuberculosis could reduce the number of households incurring tuberculosis-related catastrophic costs by 6–19%. The benefits would be greatest for the poorest households. In South Africa, expanded access to care could decrease household tuberculosis-related catastrophic costs by 5–20%, but gains would be seen largely after 5–10 years(17).

One study in which Ghana, Viet Nam and Dominican Republic were considered shown that across the countries, 27–70% of patients stopped working and experienced reduced income, 5– 37% sold property and 17–47% borrowed money due to TB. Hospitalization costs (US$42–118) and additional food items formed the largest part of direct costs during treatment. Average total patient

costs (US$538– 1268) were equivalent to approximately 1 year of individual income. The study concludes similar patterns and challenges of TB-related costs for patients across the three countries thus researchers from this study called for a need to advocate for global, united action for TB patients to be included under social protection schemes and for national TB program(10).

Studies done in Ethiopia in similar subject are very limited or absent regarding TB in general and MDR-TB. However catastrophic costs estimated for multiple countries in which Ethiopia was also considered have shown that the country is among the highly affected nations when it comes to financial burden on TB patients. A study from three countries where Ethiopia was also a candidate have revealed that the following results. In total 406 MDR-TB patients and 197 other TB patients were included in the survey: 169 MDR-TB patients and 25 other TB patients in Ethiopia; 143 MDR-TB patients and 118 TB patients in Indonesia; and 94 MDR-TB patients and 54 other TB patients in Kazakhstan. Total costs for diagnosis and current treatment episode for TB patients were estimated to be USD 260 in Ethiopia, USD 169 in Indonesia, and USD 929 in Kazakhstan, compared to USD 1838, USD 2342, and USD 3125 for MDR-TB patients, respectively. These costs represented 0.82–4.6 months of pre-treatment household income for TB patients and 9.3–24.9 months for MDR-TB patients. Importantly, 38–92 % reported income loss and 26–76 % of TB patients lost their jobs due to (MDR) TB illness, further aggravating the financial burden(23).

2.2. Literatures on Coping Strategies

Studies on coping strategies opted by MDR-TB patients are very limited and the majority of the studies identify coping strategies as an adhoc to study on catastrophic health expenditure of MDR-TB diagnosis and care.

A study by Raffael et. al on factors factors determining household expenditure for tuberculosis and coping strategies in Tajikistan identified the use of household income, donations received and selling assets as the main coping strategies.Similarily, study from China, Yunnan found out that due to the extreme financial burden, most MDR-TB patients reported relying on multiple different sources of funding (borrowing and selling assests), having exhausted one after another over the long duration of treatment.Study from similar country also identified borrowing and selling to pay for TB care as the main strategy to cope with catastrophes (24–26).

A study from Africa, Congo identified the following coping strategies and social consequences as a result of tuberculosis. These include: dissaving (loan and sell of assests), Socio-economic impacts (food insecurity, divorce or separation from spouse/partner, loss of job, child interrupting

schooling, and social exclusion), self reported impoverishment and seeking social support after TB diagnosis (27).

To cope with the costs for TB care, patients reported in addition to borrowing money and selling household property they also resorted to pledging jewels or dissolving savings towards meeting costs (16).

In general coping strategies have been used as a good indication of long-term financial hardship in the context of health-related costs. Health shocks are often costlier than other types of shocks, and households are often less able to recover following a health shock as compared with agricultural, natural, or legal shocks (28)

Conceptual Framework

The conceptual framework for catastrophic cost of TB was adapted from the KNCV Tuberculosis Foundation: the tool to estimate patient's costand other conceptual frameworks developed for analyzing the economic burden of illness for households(3,29).

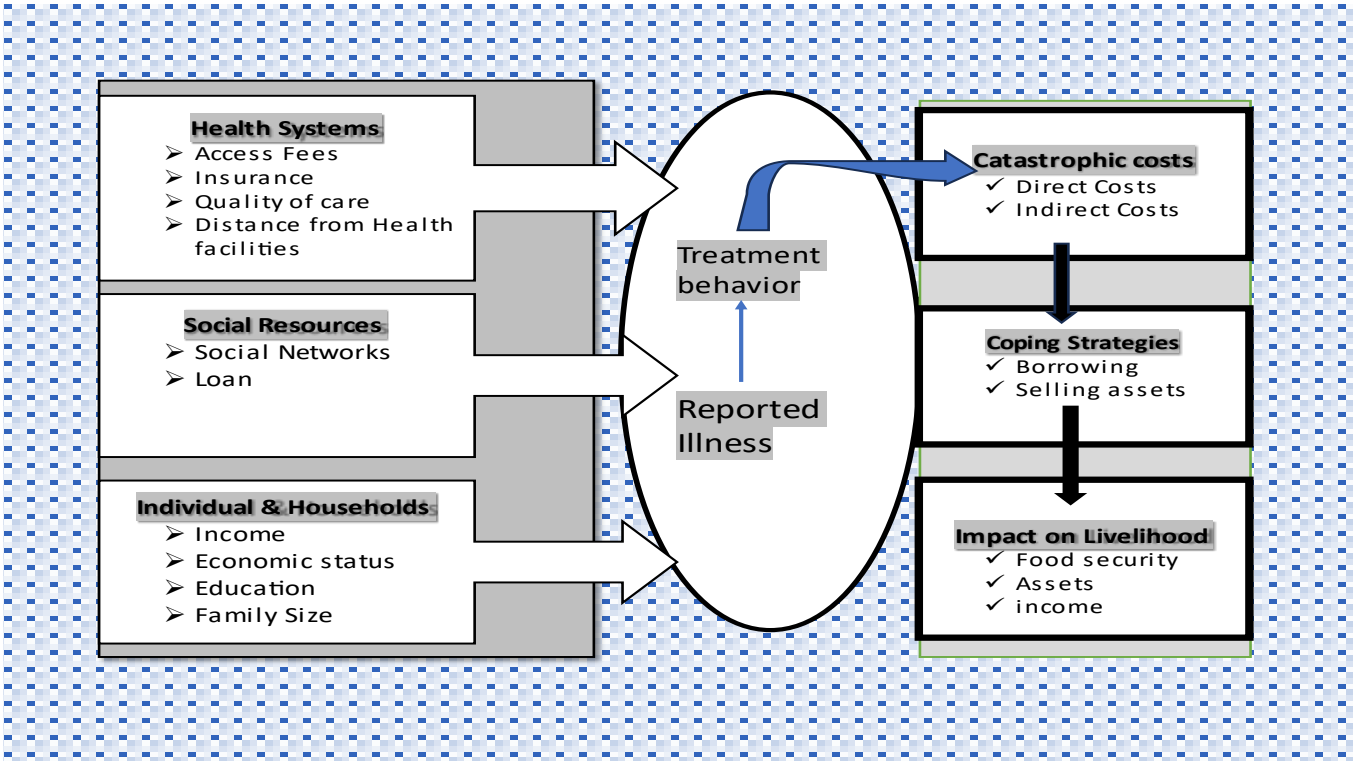

Figure 1 Conceptual framework, adopted from KNCV: the tool to estimate Patients' Costs. Published online 2008:11.

III: OBJECTIVE

3.1. General Objective

- To assess catastrophic health expenditure and coping strategies of MDR-TB patients and their households in Addis Ababa.

3.2. Specific Objective

- To estimate catastrophic cost of MDR-TB patients and TB affected households.
- To identify coping strategies opted by MDR-TB patients to deal with catastrophic cost.

IV: METHODS AND MATERIALS

4.1. Study Design and period

An institutional based cross-sectional survey was carried out among MDR-TB treating health facilities in Addis Ababa from May to July 2022.

4.2. Study Area

The study was conducted at two hospitals in Addis Ababa namely All African TB & Leprosy Treatment and Rehabilitation Center (ALERT) hospital and St. Peter Specialized referral hospital both of which are known for long term research, treatment initiation and follow-up facilities providing treatements of all forms of TB including MDR-TB.

ALERT was initially a Leprosarium established by Sudan interior mission in 19933 and named Princess Zenebework Memorial Hospital (PMHZ) by 1934. As a result of an increase in the mangnitude of Leprosy and its impact in Africa, the idea of establishing Leprosy Training Center for was conceived by many international donor agencies which where the bases for PZMH to be converted to ALERT on December 11, 1965. Currently the hospital has a total of 2000 staff including health professionals and supportive staff. It has more than 400 functional beds with an estimated catchment population of 3.4million and patients' attendance of greater than 500, 000 which makes the hospital the second high load facility next to Black Lion Hospital in the city. ALERT Treatment Initiating Center (TIC) was inaugurated as DR-TB treatment initiating center in December, 2011G.C and started providing service in March 2011 G.C. The TIC has enrolled a total of 761 DR-TB patients since its establishment. The TIC serves five sub-cities namely Akaki

Kality, Lideta, N/S/L, Kolfe Keraniyo and Addis Ketema and there more than 30 treatment follow-up centers under the hospitals TIC.

St. Peter Specialized hospital, previously known as TB treatment center, was established back in 1955E.C during the Eperor Haileselassie era. The hospital was then located around kolfe keraniyo sub-city before it moved to its current location where it started to provide HIV/AIDS services in addition to Tuberculosis diagnosis and treatment. The hospital in its current location now provides over 26 services starting from 2004E.C. The hospital now services over 100, 000 customers per annum. With special focus on mothers and children healthcare, the hospital has also been recognized as a center of excellence for conducting research in healthcare. Currently the hospital fulfills organizational requirements of federal hospitals and is organized under 23 directorates and is staffed with 573 support staffs, 927 healthcare workers, 100 specialists, sub-specialists & general practitioners and has over 1500 staffs in total.

4.3. Source population

All MDR-TB patients in the two hospitals (ALERT & St. Peter specialized referral hospital) were eligible for the study.

4.4. Study population

To have an estimate of catastrophic cost of MDR-TB for Addis Ababa, all patients at the two hospitals were surveyed. According to prior information gained from the treatment and follow-up centers at the two hospitals there were an estimated two hundred twenty (220) MDR-TB patients in Addis Ababa. Therefore, all accessible patients during the data collection period were included in this survey. To minimize non-response rate all patients who present themselves on the day of the follow-up were interviewed by multiple interviewers trained for this purpose. To avoid inconveniences and unnecessary interview related cost to the patients, the interviews were made on the day of their respective follow up.

Inclusion criteria

This study included all MDR-TB patients and their treatment supporters in the two hospitals who fulfill the operational definition listed below and who are either at the phase of treatment initiation and thereafter during the intensive and continuation phase.

Exclusion Criteria

- Age under 18 years with no guardians
- Adult patients who are severely ill and admitted and thus cannot provide accurate data.
- Adult MDR-TB patients who are physically and mentally debilitated due to illness and thus cannot provide consent.

4.5. Sample size

A cross-sectional survey method was employed at the two hospitals which are currently providing diagnostic services and treatment initiation for MDR-TB. The following single proportion formula will be used:

$$n = \frac{z^2\, p\, q}{d^2}$$

where:

n= sample size

$Z\alpha^2$= the confidence level at 95%

P= population proportion

Q=1-P

d^2= the level of precision

Table 1. Estimating Sample Size in Different P- Value from Different Literatures for the Study, Addis Ababa, Ethiopia, 2021.

Investigator	**Study area**	**Prevalence Margin of Error: 0.05**	**Sample size (for population <10,000**	**Remark**
Yun Wang, et al	Guizhou province, China	87.0 % Catastrophic total cost	97	Overall catastrophic total cost
Ahmad Fuady et al	Indonesia	83 % total costs incurred by HHs	109	Overall total cost incurred by HHs for MDR-TB treatment and diagnosis
Si Thu Aung et al	Myanmar	60 % HHs faced catastrophic cost	138	TB-affected households faceing catastrophic costs
E. M. Tomeny et al	Cavite Province, the Philippines	80 % MDR-TB patient suffering from Catastrophic cost	115	MDR-TB patients suffering from catastrophic cost

Where:

$z\alpha$ = standard normal deviation, set at 1.96, to correspond to the 95% confidence interval

p = 60% (i.e. 0.6) as we have seen from the above table the maximum sample size is calculated from a study conducted on TB-affected households facing catastrophic costs of MDR TB in Myanmar as60%.

q = 1.0 – p

d = 0.05 (degree of accuracy desired)

$$n = \frac{(1.96)^2 \times 0.6 \times 0.4}{(0.05)^2} = 368$$

With population correction formula applied since the number of source population is <10, 000; the final sample size would be: n_f=n/1+(n-1/N)=> n_f=368/((1+(368-1/220)=**137**

However, the estimated numbers of MDR-TB patients at the two hospitals in Addis Ababa are 220 and this number is more than the above calculated sample size. Therefore, all MDR-TB patients accessible during the data collection period were included in the survey. Accordingly, an estimated 220 patients were eligible for the survey based on sampling frame obtained from national TB registry.

4.6. Sampling procedure

All MDR-TB patients accessed during the data collection period (May 2022 to June 2022) were included. MDR-TB patients in the two hospitals who pay visits either for diagnostic or follow-up purposes were interviewed on consecutive bases. All MDR-TB patients who do have follow-up visits during the two months were interviewed on that date. All other patients, however, were contacted via phone calls to arrange the date of the interview. From the two Treatment Initiation centers (TIC) namely ALERT and St. Peter referral hospital, a total of 200 patients eligible 83 and 102 respectively were surveyed.

4.7. Data collection and Tools

Data collection was made by using WHO standard questionnaire used in estimating catastrophic cost of MDR-TB. The Handbook replaces the field-testing version of a generic protocol that was developed by WHO with experts in a WHO-led TB Patient Cost Task Force in 2015, building on a previous tool. Revision of the protocol was based on experience gained through national TB patient cost surveys conducted in Myanmar (2015), Viet Nam (2016), Timor Leste (2017), Ghana (2016), Mongolia (2017), the Philippines (2017), Uganda (2017), China (2017) and Kenya (2017), as well as additional advice provided by the Task Force. Data was collected using an interviewer administered structured questionnaire which wasadopted from the WHO handbook of catastrophic cost estimation for TB and other relevant questionnaires used to collect health expenditure data. Pre-test of the questionnaire on 5% of the total samples size was held before the actual data collection period FRES MEDA health center found in woreda 05 of Kirkos sub-city in Addis Ababa. This health center was considered just due to knowledge of the facility thus for ease of successful pretesting. Adjustment to the data collection tool was made according to feedback from the pre-test. The questionnaire from the English version was translated into the Amharic language and for consistency the Amharic version was further be translated back to English.

4.8. Data collection procedure

Data was collected by structured interviewer administered questionnaire to study participant, before collecting the data the purpose of the study wasexplained for each respondent. To reduce the loss of time and extra cost to patients, data was collected from patients who come to the two hospitals for the purpose of diagnosis or treatment follow-up only.

Data collection was done via MDR-TB treating facility health workers. To avoid social desirability bias interviewers were selected from units other than MDR-TB treating unit. An appropriate training was provided to the data collectors for two consecutive days. To reduce the risk of transmission and protect data collectors, the data collection was done in an open and ventilated space where privacy is maintained. All data collectors used N95 masks.

4.9. Variables

Dependent variables:

- Catastrophic cost of MDR-TB
- Coping strategies to catastrophes

Independent variable:

- Socio-demographic characteristics such as income, education
- Factors that expose to catastrophic cost
    - Diagnostic procedures and frequencies
    - Distance from health facility
    - Duration of treatment and diagnosis
    - Family size
    - Place of residence (Urban, rural)
    - Role in the family
    - Employment status (employed unemployed)
- Factors that affect coping strategies
    - Availability of loan services and loaning institutions
    - Participation in social institutions including IDIR, Mahiber….
    - Ownership of properties sellable
    - Ownership of cattle and animals

- Health Facility related factors
    - Presence of reimbursement for out-of- pocket payments
    - Other motivational and benefits
    - Place of treatment

4.10. Operational definition

Catastrophic total costs of MDR TB: Total costs (indirect and direct combined) exceeding a given threshold (20%) of the household's annual income. The total indirect and direct costs of TB are defined as the sum of: a) Out-of-pocket payments for TB diagnosis and treatment made by TB patient's households, net of any reimbursements; b) Payments related to the use of TB health services, such as payments for transportation, accommodation or food net of any reimbursements to the individual who made the payments (i.e. guardian or patient); c) Income losses incurred by both the TB patient and any accompanying household member, net of any welfare payment (WHO and World Bank, 2015).

Direct costs: Out-of-pocket payment for TB care and Out-of-pocket payments non-medical are direct costs.

Food payment: Out-of-pocket payments for food bought in relation to travelling to the health care visit, and during visit or hospitalization, patient and household member (e.g. if meals at the hospital are not provided). Food costs are part of direct non-medical costs.

Indirect costs of seeking TB treatment: Productivity and economic costs of a patient or household incurred because of TB health care seeking and hospitalization, during the TB episode.

4.11. Data Quality management

Data quality was controlled by designing proper data collection tools that were adapted from the WHO handbook for estimation of costs related to tuberculosis and tools used in other countries for this purpose. Pretesting of the questionnaire was undertaken to provide an oppourtunity to identify any problems with the survey tool and validate assumtions of the survey, timing of interview and budget. Trained interviewers were commissioned to perform the pilot-testing. The wording of questions, their sequence, and structure of the questionnaire were improved based on the findings of the pilot testing. Questions and instructions were added. However, questions were notdeleted, and the content of questions did not change, other than changes to adapt to local context. The main

data was collected by hiring data collectors who are trained in MDR-TB treatment guideline and who have worked at treatment initiation and follow-up centers for a reasonable period. During the data collection a close supervision was made at the two hospitals and problems encountered were resolved in the immediate environment. Completed questionnaire were examined for completeness and consistency daily and were stored in a locker made available for this purpose. Data cleaning prior to data entry was done by the principal investigator. All completed questinnaires were carefully entered and analysed by RedCap and SPSS respectively.

4.12. Data processing and Analysis

RedCap, which is commercialsoftware, was used for data entry and cleaning. Subscription to the software was made possible via AHRI. Later the dataset from this software was exported to SPSS version 25.0for data analysis. Descriptive statistics were applied to summarize characteristics of the study subjects. After the data has undergone cleaning, basic descriptive statistics and cross-tabulations was produced to display the patient population, health care utilization, model of TB care (place of treatment, number of visits etc.), demographics (e.g. age, gender) and TB treatment information (e.g. MDR status, phase of treatment, diagnostic delay).

The respondents were asked questions to assess their overalldirect and indirect costs incurred during diagnostic and therapeutic processes in MDR-TB. To label respondents answers into dichotomous group, catastrophic cost cut-offs was set at 20% of the households' annual income. Accordingly, a total cost was estimated for each household by extrapolating reported costs and comparing them to household income. If the proportion of total costs exceeds 20% of the annual household income, a TB-affected household was deemed to have faced catastrophic costs.

4.13. Ethical consideration

Ethical clearance was obtained from Research and ethical committee (REC) of school of public health, Addis Ababa University and Letter of co-operation from school of public health was taken to the two hospitals. All participants were informed about the purpose and significance of the survey to get the consent of the respondents and their full right to refuse, withdraw or completely reject part or all the study. The right of participants to anonymity and confidentiality was guaranteed by making the questionnaire anonymous. Raw data was notgiven to third parties. Finally informed consent was gained from participants after data collectors inform the minimum risk and the benefit of the study.

V. RESULTS

5.1. Participant Characteristics

Between May to June 2022 potential participants for the survey were identified based on the inclusion criteria at two hospitals, namely ALERT and St. Peter's Specialized referral hospital known for diagnosing, initiating treatment and follow-up of patients with MDR-TB.A list of participants was accessed from the national MDR-TB registry. From the expected 200 participants identified a total of 184 patients were included in this survey with a response rate of 93%. Of 185 MDR-TB patients aged 18 years and above invited to participate in the catastrophic health expenditure survey, all agreed to participate (100%). Of those not included in the survey one was a child under the age of 18 thus did not meet the eligibility criteria, 11 were not available at the time of the survey and four were patients from outside of Addis Ababa region.

Characteristics of the 184 participants are in Table 1. The median age of participants enrolled in this survey was 32 years (IQR: 27 yrs to 40yrs). Most participants 108 (58.7%) were male. Fifty-six patients in this survey graduated or have certificate followed by 54 (29.3%) patients who completed primary school. Twenty-six (14.1%) patients were illiterate.

Only 38 (20.5%) were formally employed at the time of the survey and only 31 (16.8%) were on work. However, a number of reasons were cited for not regularly working including no formal work at all 57 (30.8%) on sick leave 26 (14.1%), and not working for other reasons 21 (11.4%).

Table 2. Characteristics of Study participants at the time of study enrollment (n=185), Addis Ababa, Ethiopia, Aug. 2022.

Patient Characteristics	***n (%)***

Age, *median (IQR)*	32 (27-40)
Age	
18-25 years	38 (20.5)
25-32 years	55 (29.7)
33 years and above	92 (49.7)
Sex	
Male	108 (58.7)
Female	76 (41.3)
Employment	
Employed	38 (20.5)
Not Employed	147 (79.5))
Educational Status	
Graduate/certificate	56 (30.4)
Primary	54 (29.3)
Secondary	48 (26.1)
Not attended/Illiterate	26 (14.1)
Ethinic Group	
Amhara	72 (38.9)
Oromo	41(22.2)
Gurage	28 (15.1)
Tigre	17 (9.2)
Wolayita	7 (3.8)
Others	20 (10.8)

5.2. Social and some selected Economic Indicators

In this survey most patients live in urban and urban slums 144 (77.8%) and 23 (12.4%) respectively with most participants' households having only one room 91 (49.2%) and the greatest majority of

those households not occupied privately and with shared connection of electric supply 118 (63.8%). The majority 162 (87.6%) use piped water as a source of drinking.

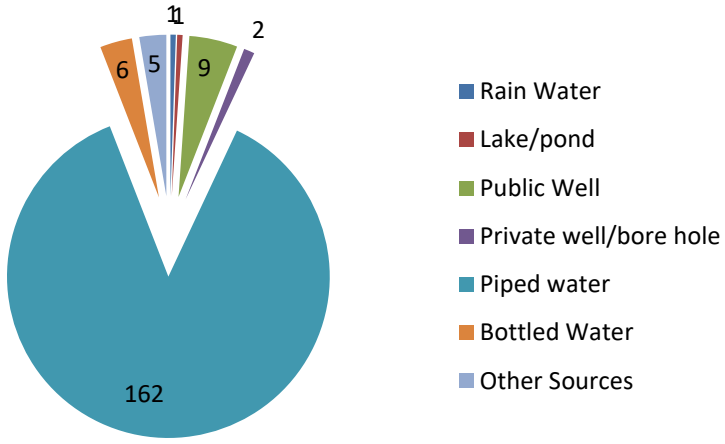

Figure 2. Source of drinking water of study participants at the time of study enrollment (n=185), Addis Ababa, Ethiopia, Aug. 2022.

5.3. Disease Characteristics, treatment Plans and HIV status

In this survey most patients have pulmonary MDR-TB 149 (81%), followed by XDR-TB Pulmonary 6 (3.3%), MDR EP 26 (14.1%), and XDR EP TB 3 (1.6%). Treatment plans for the majority of these patients were 18 months 78 (42.4%), followed by 20 months 27 (14.7%), 24 months 23 (12.5%), and nine-month treatment plan 56 (30.4%). Classification of the MDR-TB patients according to their prior use of anti-TB drug revealed that most are New (82, 44.8%), previously treated with First line drugs (92, 50.3%), previously treated with second line drugs (7, 3.8%), Other (2, 1.1%). For n (184) for whom treatement phases were captured, the majority of the patients were in the Continuation phase 117 (63.6%) followed by Intensive phase 67 (36.4%).

According to patient registration group the survey revealed that most are new (82, 45.3%), followed by relapse (48, 26.5%), treatment after being lost to follow -up (1, 0.6%), treatment after failure of New TB regimen (42, 23.2%), and finally treatment after failure of retreatment regimen (8, 4.4%). With respect to HIV status as one of concomitant infection most were HIV^{-ve} (146, 82.0%), about 31 (17.4%) were HIV^{+ve} and almost no one were Unknown 1 (0.6%) for their serostatus for HIV.

Table 3. Disease characteristics, treatment plans, duration of treatment and HIV status, Addis Ababa, Ethiopia, Aug. 2022.

Type of MDR-TB	**n (%)**	**Phase of treatment**	**n (%)**
MDR-TB pulmonary	140 (79.5)	Intensive phase	67 (36.4)
XDR-TB pulmonary	7 (4.0)	Continuation phase	117 (63.6)
MDR-EP	26 (14.8)	**HIV status**	
XDR EP TB	3(1.7)	+ve	31(17.4)
Total Duration of Planned Treatment		-ve	146 (82)
18 months	79 (43.2)	Unknown	1 (0.6)
20 months	27 (14.8)		
24 months	23 (12.6)		
9 months	56 (29.5)		
Classification according to history of previous drug use			
New	82 (44.8)		
Previously treated with first line drugs	92 (50.3)		
Previously treated with second line drugs	7 (3.8)		
Others	2 (1.1)		
Classification according to registration group			
New	82 (45.3)		
Relapse	48 (26.5)		
Treatment after being lost to follow-up	1 (0.6)		
Treatment after failure of New TB regimen	42 (23.2)		
Treatment after failure of retreatment regimen	8 (4.4)		

5.4. Health Care Seeking Behaviour

Survey participants were asked if they had had TB treatment ever before the current one. For patients who ever had treatment before, questions related to circumstances with TB treatment and treatment completion status was also asked. Accordingly, from 175 patients for whom the response was captured, a total of 95 (54.3%) patients underwent TB treatment before the current one and about 80 (45.7%) had never had TB treatment. Among those who had treatment for TB about 64 (77.1%) reported successfully completing the treatment and the remaining 19(22.9%) discontinued treatment for several reasons including lack of money for transport and other associated costs.

With respect to reasons for which patients were forced to seek treatment for the current condition of TB, the following symptoms and their respective durations were reported, Figure 3.

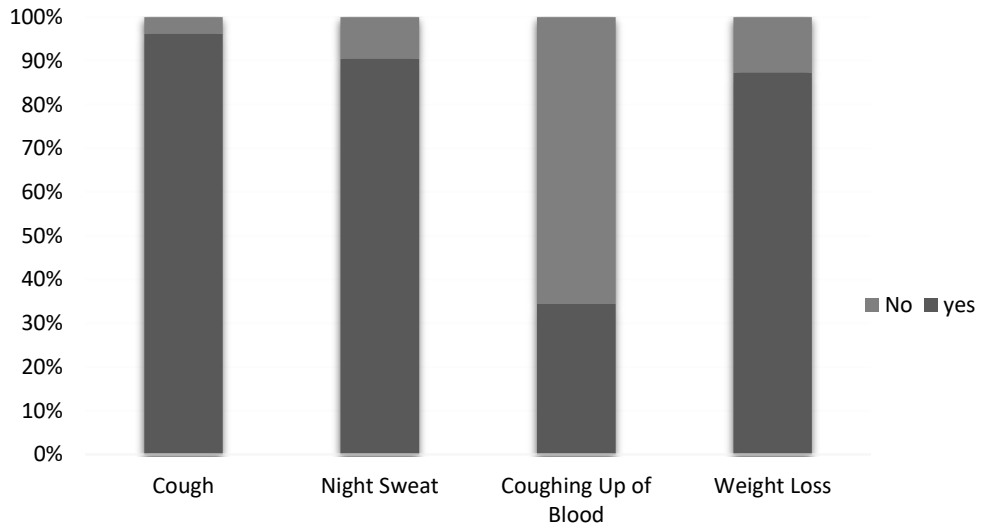

Figure 3. Reasons for seeking treatment for the current episode of Tuberculosis (n=185), Addis Ababa, Ethiopia, Aug. 2022.

Accordingly, more than three-fourth 154 (83.2%) of the patients went to public facility (hospital or health center) to receive care. For those who did not prefer public provider of care reasons cited were mistrust of government provided services, distance to facility, extended waiting time and lack of money.

5.5. MDR-TB care related total Costs.

Two types of costs were recorded and analyzed: direct medical and direct non-medical costs. The direct costs included payment after any reimbursement for medical fees, administration or registration fees, and all diagnostic tests performed pre- or post-diagnosis.

The computed total direc medical and indirect medical costs were sum of patient related expenses (prediagnostic and diagnostic costs, transport cost during a treatment initiation and intensive phase, food, accommodation, administrative costs, follow-up cost, inpatient care if any, food supplement costs), guardian/treatment supporter and visitors' costs during inpatient care from which any reimbursement was deducted.

Accordingly, the mean total cost of MDR-TB care of all patients (n=184) during an entire care was birr 21,414 (95% CI, 17,729-24,669) with costs ranging from as low as birr 180 to as high as 144,360 during the period. Converted into USD, based on covertion rate of National Bank of Ethiopia dated 20/09/2022, this average was $405 (95% CI 334.5- 465.5) for the same period of MDR-TB care. Supplements and food costs during both phases of MDR-TB care greately contributed to total costs with mean cost of birr 12,312 ($232) and 37, 57 ($71) respectively.

5.6. Monthly household income before and after TB episodes

Data for estimating monthly household income was based on self-reported household income and mainly included patient income, income of rest of family and any government assistance or warefares. Accordingly the mean monthly income before TB was 120 USD (SD: 171.7) and monthly average income after the occurrence of TB was birr 110 (SD: 310). The reduction in monthly income was significant at p-value 0.01 (p=0.0063) and was mainly due to becoming affected by Tuberculosis.

5.7. Catastrophic Expenditure for MDR-TB care

For n (=184) patients for whom annual household income was captured the mean percentage of household income spent on MDR-TB was 43%.

Overall, 54.3% (100 of 184) of patients experienced high expenses (>20% of total household income). A more sensitivity analysis at 15%, 10% and 5% thresholds show that the percentages of

households that experienced catastrophic costs were even worse which is 60.3%, 68.5% & 73.9% respectively.

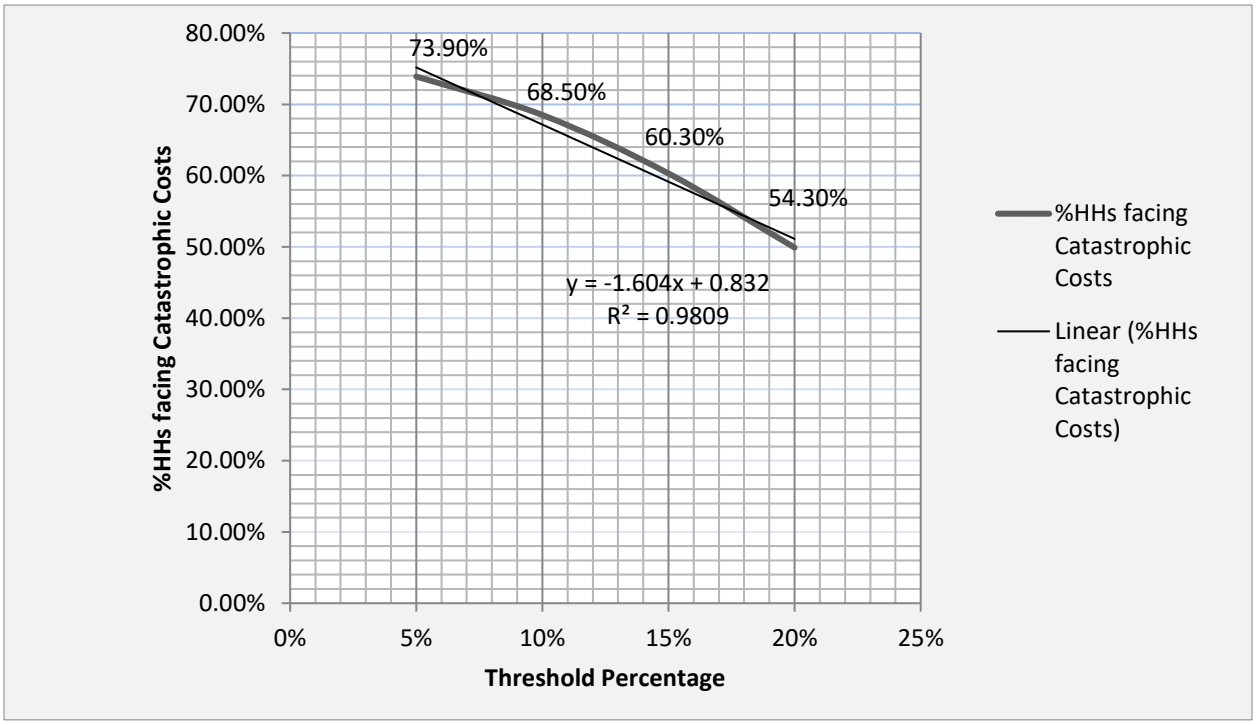

Figure 4. Impact of changing threshold to define catastrophic costs and the count of TB affected households experiencing catastrophic total costs, Addis Ababa, Ethiopia, Aug. 2022

5.8. Determinants of Catastrophic Total Costs

A binary logistic regression was performed to ascertain the effect of gender, patient education, and type of TB, treatment phase, total duration of planned treatment and annual household income and other selected variables on the likelyhood of facing catastrophes. The logistic regression model was statistically significant, X^2 (16) = 67.110, p <0.005. The model explained 43.8% (Nagelkerke R^2) of the variance in catastrophic costs and correctly classified 79.9% of cases.

To identify the determinants variables associated with higher incidence of catastrophic cost at 20% cutoff, we used binary logistic regression model (table 4). The variables retained in the final step of the model that significantly predict the low ICC were: history of borrowing money (adj. OR=0.351, 95%CI=0.151 – 0.815; P-value=0.015), buying supplements such as vitamins (adj. OR=0.137, 95% CI=0.054 – 0.348; P-value=0.000), family members accompanying for DOTs (adj. OR=0.313, 95%CI= 0.112 – 0.869; P-value=0.026). The higher incidence of catastrophic cost was positivily associated with annual household income (adj. OR=1, 95%CI=1-1; P-value=0.000).

The study reveals the incidence of catastrophic cost at household level is not associated with some other selected variables.

Table 4. Predictor factors associated with catastrophic total household costs among MDR-TB patients using bivariate logistic regression model.

Variables	***Variable category***	***P***	***Adjusted OR (Adj.OR***	***95% C.I.***	
				Lower	***Upper***
Money dissavings or withdrawal from banks	Yes				
	No	.934	1.056	.287	3.886
History of borrowing money	Yes				
	No	.0153*	.351	.151	.815
Presence of Chronic illness	Yes				
	No	.669	1.289	.403	4.118
Buying supplements such as multivitamins	Yes				
	No	.000*	.137	.054	.348
History of hospitalization	Yes				
	No	.973	.985	.411	2.363
Family members accompanying to DOTs	Yes				
	No	.026*	.313	.112	.869
HIV status	-ve				
	+ve	.660	1.346	.358	5.059
Patient Educational Status	Not educated				
	Educated	.455	.630	.187	2.117
Type of TB	MDR-TBP				
	MDR-TBEP	.897	1.080	.339	3.444
Gender	Male				
	Female	.752	1.138	.511	2.531
Annual household Income		.000*	1.000	1.000	1.000
Total duration of planned treatment		.596	1.023	.940	1.114
Phase of treatment	Intensive				
	Continuation	.511	1.353	.550	3.329

*P-value significant at 0.05

5.9. Coping Costs and Strategies and Risk factors for experiencing costs

To cope with the costs associated with TB care, patients underwent variety of coping mechanisms including about 61 (33.2%) patients borrowing an estimated average of 5739 birr (108 USD); about 27 (14.7%) patients selling house properties (mainly household items, land and livestokcs) with the estimated mean market value of the property sold being 21375 birr (403 USD); and about 21 (11.4%) patients undergoing dissavings including withdrawal of money from banks the amount standing at an average of 55000 ETB (1037 USD). Out of that amount dissaved (withdrew) from banks, each of 18 patients spent an average sum of 15216 (287 USD) on TB care either before treatment began, during intensive or in the continuation phase of the treatment.

In this study just a few (eight persons) of the household members withdrew from school or their regular work to support the family associated with the TB-affected person in the household.

VI. Discussion

This assessment of costs related diagnosis and care of MDR-TB patients has revealed the presence of catastrophic cost which is of particular significance.

In a study done on cost-effectiveness treating MDR-TB in Ethiopia; the average amount to treat a patient stood at $8, 416 at TIC and $6, 657 at TFC. In this study the average cost-effectiveness ratio per DALY averted at TFC and TIC were $671 & 1, 417 respectively. The average amount MDR-TB patient must pay ($405) in our study is close to the amount a DALY can be averted at TFC implying the significant amount of money being paid out-of-pocket. The maximum amount incurred by a patient in our study stood at $2,724 signifying that even some patient are paying close to one-fourth of the amount needed to treat a single MDR-TB programmatically (30).

From a study done in Ethiopia in 2016 for drug sensitive TB; it was shown that the total cost direct (Out-of-Pocket) mean and median costs of TB illness to patients were $123.0 (SD = 58.8) and $125.78 respectively (31). The mean out-of-pocket payment from our study ($405) is much much higher than this study. The higher rate reflected in this study is probably due to the longer period MDR-TB patients need to take to complete treatment.

A recent study from DR Congo in 2019 revealed 56.5% of households affected by TB experienced costs above 20% of their annual household expenditure showing consistent findings between the two countries. However, the average amount incurred in USD per MDR-TB patient in the study is

much higher than our $405 vs. US$1,224 (27). The higher cost could be due to a more approximate estimate in which over 1,118 patients were included in the Congo study.

The total cost ($405) of MDR-TB related care in this survey is much higher than a study done in India for which total cost an included 102 patients was $195. Similarly the 49.5% households being affected in this survey is higher than that of similar study which is at 39% (13).

In another similar study from Pakistan it was showed that the total cost incurred by households for MDR-TB related was 2804 USD. The finding from our study is much lower than the study in Pakistan. This could be due to the availability and accessibility variation to TB care and services in the two countries or can be explained by the fact that the number of paticipants of the study varies. However the incidence of catastrophic total costs in all TB-affected households when compared with this study is much lower than our study, 49.9% vs 36% (15).

A study from Myanmar found out that 60% of TB-affected households faced catastrophic costs which is a slight 10% higher compared the finding from Ethiopia. However the contribution of food cost and medical expenses to the total cost were consistent between the two studies (14).

In general, comparison with other studies that adopt WHO method of total catastrophic health expenditure of at least 20% from the annual income, our finding (49.5%) was consistent with what was reported in some Asian countries (15,16,32) e.g. Indonesia 12 (36%), Puducherry-India (32%), Viet Nam (63%). Furthermore, in relation with similar studies from across Africa, our finding was consistent with the corresponding figures reported in other studies (33) e.g. Uganda (53.1%), and much higher than studies from South Africa (28%), and Kenya (26.5%) (34,35). These lower rates in South Africa and Kenya could be due to the catastrophic cost protection measures being taken by the two countries following successful surveys done in both countries in 2017.

Comparison with studies that used percentage of direct costs exceeding 10% of the household income, a lower incidence (41%) of catastrophic health expenditure was reported in South Africa (36) and Nigeria (44%) (37). A similar incidence rates were reported were reported in China (67%) and Benin (78.1%) (38,39).

Regarding coping strategies, this study revealed that about 33% of the MDR-TB patients borrowed money and this study is comparable with the study done in India which is 38% (16). In a similar study from Puducherry, India; an estimated 8% patients reported selling household property.

However, in our study this rate is at about 14.7%, which is much higher than the above study. The higher rate in our study could be due to the recent rise in inflation that might force patients to sell household property to deal with the cost.

From a study in China, patients either borrowed money (45.8%), sold assets only (0.5%), or did both (2.3%) (24) where our study is slightly lower compared with the amount borrowed but much higher when compared with the proportions of patients selling assests which again could be due to the buying capacity of money at current times forcing patients in our study to sell assets to cover for the cost.

VII. Conclusion

The catastrophic cost of TB service cannot be overlooked in Ethiopia, despite the free policy. This study has revealed the incidence of catastrophic health expenditure among household affected by MDR-TB is comparabily high. The high proportion of TB-affected households experiencing catastrophic costs suggests the need for TB-specific social protection programs in patient-centered healthcare in Ethiopia. If Ethiopia has to reach the global milestone of no households face catastrophic cost due to TB by 2030, important steps needs to be taken.

VIII. Recommendations

For the FMoH

- A multi-disciplinary and multi-sectoral discussions on the findings of this study and real-world experiences on how to mitigate costs incurred by MDR-TB patients should be held nationally.
- We have been able to observe several measures in place to subside the livings of MDR-TB patients including housing subsidy for the poorest of the poor based on eligibility criteria for the program. However, most of those measures were not being implemented during the survey period. The housing subsidies for the very poor such as those living in the street have been withheld for a variety of reasons. We call for the existing schemes to be more strenghthened including global assistance that has been used to subsidize food for patients.

For Regions

- The existence of catastrophes among MDR-TB patients means it can be even worse at regional level where TICs are comparably far from patients thus more costs for transport and accommodation could be of a concern. Therefore, expansion of diagnostic and treatment facilities across the country as an effort to bring the needed care closer to the community in need is vital to migitage costs associated with low service accessibility.

For Research Instituions

- Multi center RCTs that can inform how to shorten the treatment period for MDR-TB patients should be strengthened so that cost-effective and time bound treatment that can avert patient associated costs can be achieved.
- More research at a national level is also needed for an accurate estimate of out-of-pocket costs and identifies risks for catastrophes so that sound policy recommendations can be thought of for Ethiopia.

For Hospitals and Health Centers

- Community-based DOTs programme must be strengthened so as to avert costs incurred between patient home to care facility including transport, food and accommodation costs.
- To minimize pre-diagnostic and diagnostic costs which are much higher at the private providers; public private partnership (PPP) must consider to mitigate the discrepant costs between providers.
- Efforts to control TB as per the WHO recommendation should also be sustained; with particular attention to stopping the development of drug-resistant TB from primary infection and from community transmission of MDR-TB itself.

IX. Limitation of the Survey

- A major issue with the estimation of total patient costs incurred is recall bias. The recall bias might also be worse in this study the fact that we tried to ask patients about the cost in their prior phase of treatment (asking about the cost in treatment initiation phase for patients in the continuation phase)
- In estimating total cost, we didn't include indirect costs such as loss of productivity including time losses.

- Estimation of the household's annual income was based on reported facts by the patients which might introduce inaccurate estimates especially among patients who are dependent on relatives where primary earners are other than the patients themselves. In this survey a reasonable number of patients is also dependent, unsure of their monthly income and dependent on unregular income and assistances.

X. Strenghts

- Despite the limitation, this study is a regional (Addis Ababa) survey-based study in which all MDR-TB were included which was conducted as one of the first catastrophic cost estimation experience for MDR-TB patients in Ethiopia.
- The use of sensitivity analysis with the thresholds used for determining catastrophic costs can also be seen as a significant improvement of the methodology.
- In the estimation of costs, the inclusion of costs incurred in the pre-diagnostic and diagnostic phases of the private providers can also be seen as a strength.
- The conduct of this survey for Addis Ababa can also be seen a first of its kind best experience for the conduct of national cost estimations for this group of patients and beyond.

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Annex 1. Work plan

Table 1: Gantt chartshowingthe Work Plan for Catastrophic cost of MDR-TB, Addis Ababa, Ethiopia, 2021.

	2021					2022										
Activities	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul	Aug	Se	Oct.	Nov	Responsible body
Topic selection																PI and advisor
proposal development																PI
Final draft submission of the proposal to the school																PI
Ethical clearance and permission from REC of AAU and AHRI/ALERT							AAU-REC	AHRI/ALERT & St. Peter ERC								AAU-REC
Training of data collectors																PI
Questionnair pre-test																PI
Data collection																DC
Data analysis, report writing and submission of first draft																PI
Final draft thesis submission																PI
Thesis defense																PI
Final research thesis submission and dissemination																PI
Monitoring and evaluation																PI and advisor

Key: PI- principal investigator, DC - data Collector

Annex 2. Budget plan

Table 2: Budget Break Downs Catastrophic cost of MDR-TB, Addis Ababa, Ethiopia, 2021.

Title	Qualification	Quantity (N)	Rate	Duration	Total (ETB)
1.Personal costs					
Training (data collectors & data clerk)	Degree	6	450/day	2 days	5,400
Principal investigator	Degree	1	200	30 days	6,000
Data collection and entry	Degree	6	200/day	6*20 day	24,000
2. Equipment & supplies					
Note book	A_4sinarline	06 pieces	15 Br/ pieces		90
Pen	Lexi	06 pieces	6 Br/pieces		36
Pencil	Dot pencil	10 pieces	1 Br/pieces		10
Eraser		10 pieces	5 Br/pieces		50
Marker		1 pack	50 Br/pack		50
Flip chart		1 pack	75 Br/pack		75
Print and Bind		75 pages	87 Br/copy		348
Questioner duplication	281*6	1,686 copies	0.75 Br/copy		1,264.5
3. Transport					
Principal investigator (For coming to training and supervision)		1	6/trip	30 trip	180
4. Other					
Cell phone card (communication)					200
Tea/coffee (During training)			100/day	2 day	200
Water (During training)	mineral water	14 pieces/day	84 birr/day	2 day	168
5. Grand total					**36,807ETB**

Annex 3. Questionnaire: Tools to Estimate Patients cost

Questionnaire Number: _____

Patient Registration Number: _____

Date of Interview	Name of Region	Name of Sub-city	Place of interview (household/facility Name	Interviewer Name
Category of Facility	1. Treatment Initiating center (Hospital)	2. Health Center	Other Specify	
Name				

Information sheet for the informed consent

Title and Background of the Project

Iam a student at Addis Ababa University and currently I am doing my thesis on total catastrophic cost of MDR-TB patients in Addis Ababa.

Significance of the Study

As you know MDR-TB patients are subject to various costs incurred during TB diagnosis and treatment follow-up. These problems have greatly impacted the national TB control and prevention activities. To minimize this situation knowing the various factors that subject patients to both direct and indirect costs and coping strategies are vital.

Objective of the study

The aim of this study is to assess and estimate costs related to MDR-TB treatment and diagnosis among patients and their households, Addis Ababa.Therefore, we would like to inquire how much people spend on healthcare and more specifically on Tuberculosis before and during diagnosis and during treatment. The interview will only last 30 to 45 minutes. The information you provide will only be used for this study and we strictly maintain confidentiality. Data's are recorded using codes and will be kept under the controls of the investigators and will not be used for other purposes other than this study.

Rights of Participants

Participant also has the right to withdraw from the study at any time they want but your response will do a lot to our study.

Potential Risks and Benefits associated

No harm will come to you nor will you get benefit as a result of participating in this study. The result of this study will be an input for program design and service delivery in MDR-TB and will therefore directly or indirectly benefit you and the general public in the improvement of services related to tuberculosis. Time and transport compensation will be considered for all patients who participate in this study

If you have any question and confusion regarding the questions you have the right to ask the interviewer but if goes beyond you can contact the investigator of this study and AHRI/ALERT Ethical Review Committee (ERC) on the following address.

Email address of Investigatorasmeromhiwot5@gmail.com and phone number 0911-48-35-71.

Address of IRB: ahri.alerterc@ahri.gov.et

This survey will take about 45 minutes.

Do you have any questions? Do you want to participate? (circle) Yes / No

If Yes: Thank you!

If No: Is there a reason why not?

1. Language not good enough 2. Time constraint 3. Not comfortable 4. Unspecified

Part I: Patient Information

Part I: Patient Information (to be filled in by interviewer with the help of patient card; fill also if interview is refused for non-response analysis	
Q101: Gender	1. Male 2. Female
Q102: Age of Patient	_____ (in years)
Q103: Type of TB	1. MDR-TB pulmonary 2.XDR-TB Pulmonary 3.MDR EP 4. XDR EP TB 5.Other ____
Q104: Total duration of Planned treatment *(circle)*	(18 months) 2.20 months 3.24 months 4.Other_____
Q105: Classification according to history of previous drug use *(circle)*	1. New 2.Previously treated with First line drugs 3.Previously treated with Second line drugs 4.Other____
Q106: Classification according Registration groups	1. New 2.Relapse 3.Treatment after being lost to follow-up 4.Treatment after failure of New TB regimen 5. Treatment after failure of Retreatment regimen 6. Transfer in 7.Other ____
Q107: Currently in intensive or continuation	1. Intensive phase 2. Continuation phase
Q108: Treatment category	1. Cat IV (MDR) 2.Other____
Q109: Drug regimen	Write regimen in standard form:
Q110: Interviewee	1. Same as patient 2. DOT supporter/Guardian 3. other
Q111: HIV status *(only if indicated on card) 1. +ve 2. –ve 3. Unknown 4. Declined*	

Proceed according to inclusion/exclusion criteria previously defined!

Q112:Date of Investigation (first sputum or xraydd/mm/yy): _____	Q113: Date of starting Treatment (dd/mm/yy): _____

Part II: Previous Treatment

Q201a: Have you ever had TB treatment before?*Cross-check with patient card; if No, go to Q*		Yes (mm/yy treatment ended _____ 2. No
Q201b: If yes: Have you completed your previous TB treatment	1. Yes 2. No	
Q201c: If No: why not?	1. Lack of money for treatment costs 2. Drug side effects 3. Moved 4. Distance to Health facility	

	5. Other Specify_____

Part III: Delay, Prediagnostic& Diagnostic Costs

Q301: What symptoms did you experience that led you to seek treatment for your current illness? How long did you experience these symptoms before you went to seek treatment?

1. Cough yes ☐ no ☐_____ months 2. Night sweats yes ☐ no ☐ _____ months
3. Coughing up blood yes ☐ no ☐_____ months 4. Weight loss yes ☐ no ☐ _____ months
5. Other (specify) yes ☐ no ☐ _____ months

Q302: Did you seek treatment or advice for these symptoms at any of the following? Check all that apply

1. Hospital yes ☐ No ☐ 2. Health center yes ☐ No ☐ 3. Pharmacy Store yes ☐ No 4. Private clinic/hospital yes ☐ No
5. Traditional healer yes ☐ No ☐ Other (specify)_____

Q303: If other than public provider was chosen in Q302): Why did you not go to the public health facility, such as government clinic or hospital when you first realizedyou were sick? *Circle most applicable.*

1. Distance to facility 2. Too expensive 3. Time consuming to wait 4. Lack of available facilities 5. Mistrust of government health services provision 6. Belief system 7. No drugs available 8. other (specify)

Q304:How far is the nearest government facility for Q305a) diagnosis and treatment	_____hours walking _____ hours with transport other:_____
Q305b) treatment only	_____hours walking _____ hours with transport other:_____

Q306: About how much did you spend for each of these visits before you were diagnosed with TB, including the visit when you actually received your diagnosis? *For all that don't apply, mark N/A; Fill one line per visit*

	Provider (*copy from question xy providers where patient sought treatment or advice*	**Total Time spent per visit***(in hours, includes travel time)*	**Administrative Costs***(consultative , registration*)	**Test costs***(for sputum or other except xray)*	**Xray costs***(includes sending xrays to radiologist, travel & fees)*	**Drug costs***(all kinds total)*	**Travel Costs***(return total)*	**Food costs** (*total)*	**Accomodation Costs***(total)*	**Sub-Total costs** per visit	**Insurance Reimbursement** *If yes: amount, if no n/a*
Visit 1											
Visit 2											
Visit 3											
Visit 4											
Visit 5											
Visit 6											
Visit 7											
Total	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____

Total Direct Prediagnostic& Diagnostic costs (sum sub-totals) minus insurance = _____Name of currency_____

Part IV: Treatment Costs

Costs related to DOT	
Q401a) Where do you currently take your TB drugs? *If the patient has visited two different DOT places, tick the current place and report costs only for that place. If DOT at home, go to Q405.* 1. Health facility / hospital 2. Home 3. Community 4. Workplace 5. Dispensary Q401b) How many times per week do you go there place to take your drugs? □ 3 times □ 5 times □ 6 times □other	
Q402: How long does it take you to get there (one way)	_____hours walking _____ hours with transport other:_____
Q403: How long does one of these visits take on average, including time on the road and waiting time *(total turnaround time)?*	Hours____

Q404: From your home to the DOT place, how much does it cost if you take transport? *(both ways)*	_____(in ETB)
Q405: How much do you spend on food on the road, while waiting, for lunch?	_____(in ETB)
Costs related to picking up the TB drugs – where drugs are currently picked up	
Q406: How often do you travel to the health facility / hospital for picking up your TB drugs?	____Times / month
Q407: How long does it take you to get there *(one way)*	_____hours walking _____ hours with transport other:_____
Q408: How long does one of these visits take on average, including time on the road and waiting time *(total turnaround time)?*	Hours____
Q409: From your home to the facility, how much does it cost if you take transport? (both ways)	_____(in ETB)
If you go to a facility to pick up your drugs, how much do you spend on food on that day? *(on the road, while waiting, lunch etc.)*	_____(in ETB)
Q410a) Do you have to pay administration fees when picking up your TB drugs? If No, go to Q411 b) If YES, how much?	1. Yes 2. No
Q411a) Do you have any accommodation costs when picking up your TB drugs? If No, go to Q412. b) If YES: how much?	1. Yes 2. No
Costs related to to follow up tests	
Q412a) Did you ever have to go to the health facility in addition to your regular visits for follow up tests since the beginning of treatment? *If No, go to Q413*	1. Yes 2. No
Q412b) If yes, how many times?	_____times
Q412c) If yes, did you have to pay any additional costs any time during the entire period?	1. Yes 2. No
Q412d) If so, what kind of costs and how much? *Fees*_____ *sputum test* _____ *Xray*_____ *TB Drugs* _____ *Other Drugs*_____ *Other*_____	_____*Total*
Q412e) How long does one of these follow-up visits take on average, including time on the road, waiting time and tests *(total turnaround time)?*	_____hours
Guardian cost	

Q413a) Does any family/friend/DOT supporter accompany you on any visits or go in your place to collect your TB drugs ? If No, go to Q414	1. Yes 2. No
Q413b) If YES, on how many visits has your family/friend/DOT supporter accompanied you or gone in your place? Record pre-diagnosis/diagnosis visits and treatment visits separately Complete at data entry: *Pre-diagnosis/diagnosis costs per visit: Transport _____ Food _____ Accommodation ____* *Costs during treatment per visit: Transport _____ Food _____ Accommodation _____*	____ Diag. times _____Treatment times Total Diag: ____ Total Treatm:___
Q413c) How much does your friend/family/DOT supporter earn per day?	1. _____ 2. Doesn't earn
Q413d) Why did someone accompany you? 1. Distance 2. Security 3. Administrative barriers 4. Too ill to travel alone 5. Was required for treatment 6. Other (specify)	
Hospitalization	
Q414: Have you been hospitalized before or during your TB treatment? *If No, go to Q423.*	1. Yes 2. No
Q415:If YES: how many days in total did you stay at the hospital?	_____days
Q416: How much did you pay in the hospital during your entire stay? Hospital administration fees:____ Sheets/Linnen:_____ Food (not provided by hospital): _____ Transport (return): _____Drugs: _____Tests: _____Others:	_____*Total*
Q417: Did any family/friend stay with you while in hospital? If No, go to question Q423.	1. Yes 2. No
Q418: If YES: How many days did he/she stay with you (sleep there)?	_____days
Q419: Were there any extra costs for your relative/friend for staying at the hospital? Accommodation (hospital or other):_____ Food: _____Transport:_____ Other:_____	1. Yes 2. No Total Costs:_____

Q420) How much does your friend/family/DOT supporter earn per day?	1. _____ 2. Doesn't earn
Q421a) Did any other family/friend visit you while in hospital? If No, go Q423. b) If yes, how many people visited you? c) How many times did they visit you? Accommodation per person:_____ Food per person:_____ Transport per person:_____ Other:_____	1. Yes 2. No _____persons _____times Total number of visits____ Total cost/person_____
Q422: How long were the visits including traveling time?	_____hours
Other Costs Food Supplements	
Q423a: Do you buy any supplements for your diet because of the TB illness, for example vitamins, meat, energy drinks, soft drinks, fruits or medicines? If No, go to Q501	1. Yes 2. No
Q423b) If YES: What kind of items? (specify) 1. Fruits 2. Drinks 3. Vitamins/Herbs 4. Meat 5. Other (specify):_____	
Q423c) How much did you spend on these items in the last month approximately?	_____(ETB)

Part V: Other Illnesses

Q501a) Do you have any chronic illness for which you are receiving treatment? If No, go to Q502	1. Yes 2. No
Q501b) If yes: which?	_____
Q501c) Are there any additional costs for you because of this other illness besides the costs that you have already mentioned? If No, go to Q502	1. Yes 2. No
Q501d) If YES: How much are these additional costs on average per month? Tests:_____ Drugs: _____Transport:_____ Food: _____Other:_____	Total:_____
Q502: How much did you spend on healthcare on average per month BEFORE the TB illness?	_____(ETB)

Q503: How much do you spend on healthcare on average per month NOW?	_____(ETB)

Part VI: Insurance

Q601a) Do you have any kind of private or government health/medical insurance scheme? If No, go to Q701	1. Yes 2. No
Q601b) If YES: What type? *1. Reimbursement scheme 2. Monthly medical allowance 3. Donor4. Family/community fund 5. Western scheme (contract) 6. Other (specify)*	
Q602c) Have you received reimbursement for any costs related to the TB illness? *Cross-check with question xy (table on prediagnostic& diagnostic costs)* If No, go to Q701	1. Yes 2. No
Q602d) How much have you received as reimbursement?	_____(ETB)

Part VII: Coping Strategy

Q701): Did you borrow any money to cover costs due to the TB illness? *If No, go to question Q702*	1. Yes 2. No
Q701a: **a)** If YES: **How much did you borrow?**	
Q701b**: From whom did you borrow?** *Circle most appropriate* 1. Family 2. Neighbors/friends 3. Private bank 4. Cooperative 5. Other (specify):	
Q701c**: What is the interest rate on the loan? (%)** 1. less than 5% 2. 5 to 10% 3. More than 10% 4. I don't pay any interest 5. I am not expected to pay back the money	
Q702 a: **Have you sold any of your property to finance the cost of the TB illness?** *If No, go to Q801*	1. Yes 2. No
Q702b:If YES**: What did you sell?** *Circle most appropriate* 1. Land 2. Livestock 3. Transport/vehicle 4. Household item 5. Farm produce 6. Other (specify):	
Q702c: **What is the estimated market value of the property you sold?**	_____Birr

Q702d: **How much did you earn from the sale of your property?**	_____Birr
Q703: Did you or your household use any savings (cash or Bank deposits) to cover costs due to the TB illness?	1. Yes 2. No
Q703a: If yes, how much did you use: a) before TB treatment started? b) In the intensive treatment phase? c) In the continuation treatment phase? d) In total	_____before TB treatment started _____In the intensive phase _____In the continuation phase _____in total (ETB)
Q704: Did anyone in your household drop out of school or interrupt schooling to assist the household as a consequence of your TB illness?	1. Yes, ____persons 2. No*if no skip to Q801*
Q704a: If yes to Q704: What were their age and sex and for how long did them drop out?	1. Age: __ Sex: __ Duration:__ months 2. Age: __ Sex:__ Duration:__ months 3. Age:__ Sex:__ Duration:__ months

Part VIII: Socioeconomic Information: *Individual Situation and Income*

Q801: **Who is the primary income earner in the household?** *Circle most appropriate*

1. Patient 2. Wife/mother 3. Husband/father 4. Extended family 5. Son/daughter 6. Other (specify)

What is the highest level of education…..?

Q802: The patient?

1. Not attended/illiterate 2. Primary 3. secondary 4.graduate/certificate 5. Other

Q802: Primary income earner?

1. Not attended/illiterate 2. Primary 3. secondary 4.graduate/certificate 5. Other

Q803: Head of household

1. Not attended/illiterate 2. Primary 3. secondary 4.graduate/certificate 5. Other

Q804: Spouse of head of household? *If more than one spouse, choose highest level of education*

1. Not attended/illiterate 2. Primary 3. secondary 4.graduate/certificate 5. Other

Q805: **Are you currently formally employed?** *Name all options first*	1. Yes, formal work *(go to Q808)* 2. No, informal work *(go to Q808)* 3. On sick leave *(go to Q806)* 4. Retired *(go to Q806)* 5. School, university *(go to Q811a)* 6. Housework *(go to Q808)*

	7. Combination (specify) 8. Other (specify)
Q806: **Is the reason for Not Working related to the TB illness?**	1. Yes 2. No
Q807: if Yes**: When was the last time you were working? (mm/yy)**	_____(MM/YY)
Q808: **How are you usually paid?** 1. cash 2. in kind 3. cash and in kind 4. not paid 5. bank transferred salary 6. other	
Q809: **What was your estimated personal take home earning per month BEFORE the TB illness?** (includes welfare, disability, or other social support): 1. Under _____ per week 2. Xx to _____ per week 3. _____ to _____ per week 4. More than _____ per week 5. Don't earn	
Q810:**What is your estimated personal take home earning per month NOW**? (includes welfare, disability, or other social support) 1. Under _____ per week 2. _____ to _____ per week 3. _____ to _____ per week 4. More than _____ per week 5. Don't earn	
If answer to Q810 differs from Q809: Q811: **Is the change related to the TB illness?**	1. Yes 2. No
Q811a: **Have you ever stopped working/going to school/doing housework due to TB?** *If No, go to Q812a*	1. Yes 2. No
Q811b:If YES**: for how long?**	1. Less than 1 month 2. One month 3. 2-3 months 4. 4-5 months 5. more than 6 months
Q812a: **Does someone stay home specifically to take care of you?** *If NO, go to Q813*	1. Yes 2. No
b) If YES: **for how long?**	_____weeks
c) Did they quit their income-earning job to stay home and care for you?	1. Yes 2. No
Q813: **How regularly did you work before you became ill with TB?**	1. Throughout the year 2. Seasonal/part of the year 3. Day labor 4. Other
Q814: **Did you have to change jobs when you became ill with TB?**	1. Yes 2. No
Q815: **What is your main occupation?** *Tick all that applies, cross-check with question Q805* 1. Sales/Service 2. Agriculture 3. Household 4. Production/construction	
Q816: **How many hours did you work on average per day BEFORE you became ill with TB?**	_____Hours
Q817: **How many hours do you work on average NOW per day?**	_____Hours
If answer to Q817 differs from answer to Q816: Q818: **Is the change related to the TB illness?**	1. Yes 2. No

If answer to Q817 differs from answer to Q816: Q819a: **Is someone doing the work that you used to do?** Q819b:1. Daughter 2. Son 3. Spouse 4. Friend 5. Nobody 6. other family	
Q820a: **Do you have children of or below school age?** *If No, go to Q821a*	1. Yes 2. No
Q820b: **Do all of your children of school age attend school regularly?** *If YES, go to Q820d)*	1. Yes 2. No
Q820c:If NO: **Why not?** *Circle most appropriate* 1. Needs to help around the house 2. No money for school fees 3. Also sick 4. Has to work to earn income	
Q820d: **Do any of your children of or below school age work to finance costs due to the TB illness?**	1. Yes 2. No
If you employed someone to do the housework for your household, how much would you have to pay him/her per day? Q821a: **While you are sick** Q821b:**While you are healthy**	_____
Q822: Are you financially independent?	1. Yes 2. No
Q823a: **Has the TB illness affected your social or private life in any way?** *If No, go to Q824.* 1. No 2. Divorce 3. Loss of Job 4. Dropped out of school 5. Separated from spouse/partner 6. Disruption of sexual life 7. Sick child 8. Other (specify):	
Q823b: If Yes: **Has this resulted in a financial burden?**	1. Yes 2. No
Q824: ***What is your tribe / ethnic group / religion?*** 1. Amhara 2. Oromo 3. Tigre 4. Sidama 5. Wolayita 6. Afar 7. Other specify	

Part IV: *Household Income and Spending*

Q901: **How much do you estimate was the average income of your household per month BEFORE the TB illness ?**(*for all persons in the house, including patient; includes welfare payments, government assistance or other social support)* 1. Income patient: _____ 2. income rest of household _____ 3. welfare payments _____ 4. government assistance 5. Other: _____ TOTAL:_____
Q902: **How much do you estimate is the average income of your household per month NOW ?** 1. Income patient: _____ 2. income rest of household _____ 3. welfare payments _____ 4. government assistance 5. Other: _____ TOTAL:_____

Q903: **How many people regularly sleep in your house?** (including patient) *If patient lives alone, go to question Q904and replace the word 'household' with 'you'*	_____
Q904: **How many of the household members are paid for working?** (including patient) (*includes payment in kind or farm produce)*	
Q905a: **Besides yourself, does anyone else of your household receive treatment for TB?** *If No, go to Q906.*	1. Yes 2. No
Q905b:If Yes: **How many?**	
Q906: **How much food did your household consume every month on average BEFORE the TB illness?** *Calculate value* *If home production:* **If the food that you consumed per month before the TB illness was sold on the market: How much would it be worth? (plus how much you spent on average on food not produced at home?)**	
Q907: **How much food does your household consume NOW every month on average?** *Calculate value* *(for same number of people)* *If home production:* **If the food that you consume per month now was sold on the market: How much would it be worth? (plus how much you spent on average on food not produced at home?)**	
Q908: *If answer to Q907 differs from Q906:***Has the amount of food consumed per month changed due to the TB illness?**	1. Yes 2. No

Part X: *Socioeconomic indicator*

Q1001: **What is your electricity supply?**	1. Own connection	2. Shared connection	3. None		
Q1002: **What is your source of drinking water?** 1. Rainwater	2. lake/pond/ dam/river	3. public well	4. private well/bore hole	5. piped water	6. bottled water
Q1003: **What type of toilet facility is available?** 1. no facility/bush/field	2. shared pit toilet/latrine	3. own pit toilet/latrine	4. flush toilet		
Q1004: **How many rooms are there in your house?** 1. 1 room	2. 2 rooms	3. 3 rooms	4. 4 or more rooms		
Q1005: **Current place of residence?**	1.Urban	2. Urban Slum	3. Rural 4.	Other (specify)	
Q1006: **Do you own the house or residence you live in?**	1. Yes	2. No			
Q1007: **Do you own….** 1. mobile phone 2. washing machine 3. motorcycle 4. bicycle 5. land (quantify) 6. etc…					
Q1008: **If the government could provide you with some service to ease the burden of TB on you and your household, what would you prefer to have?** *State options, choose one*					

1. Transport vouchers 2. food vouchers 3. More efficient service 4. Other (specify):

We would like to know the cost of the TB illness on the welfare of your household; that is, we would like to put a value on the TB illness which includes pain and suffering.

Therefore, we would like to know how much it would be worth to you if you could avoid becoming ill with TB in the first place. Note that we don't ask what you actually can, but what you would be willing pay if you had an unlimited amount of money.

Q1009: **How much would you be willing to pay for not becoming ill with TB in the first place?**

1. Under _____ 2. Between _____ and _____ 3. over _____ 4. Other (specify)_____

Thank you for your cooperation! Is there anything you would like to ask or say?

Comments by Interviewer:

Date, Signature by Interviewer:

=====//////=====

Annex 4: መጠይቅ:

መጠይቅ ቁጥር: _____

የታካሚዉ መለያ ቁጥር: _____

መጠይቅ የተደረገበት ቀን	የክልሉ ስም	የክ/ከተማዉ ስም	መጠይቁ የተደረገበት ቦታ(ቤት ቁጥር/የተቋሙ ስም	የጠያቂዉ ስም
የተቋሙ ደረጃ	3. ህክምናዉን ያስጀመረዉ ሆስፒታል ስም	4. ጤና ጣቢያ	ሌላ (ይገለፅ)	
ስም				

የስምምነት መረጃ ወረቀት

የጥናቱ ርዕስና ድህረ-ታሪክ

በአዲስ አበባ ዩኒቨርስቲ ተማሪ ሲሆን በአሁን ሰዓት የመመረቂያ ፅሁፌን በቲቢ ህመምተኞች ጋር በተገኛኘ የሚያጥማቸዉን ተጫማሪ ወጪዎች ላይ በመስራ ላይ ነኝ፡፡

የጥናቱ አስፈላጊነት

እንደሚታወቀዉ መዲሃኒት የተለማመደ ቲቢ ታማሚዎች ለተለያዩ ወጪዎች ይዳረጋሉ፡፡ ይህም ወጪ በምርመራና በህክምና ጊዜ የሚያጋጥም ነዉ፡፡ ይህም በአገርቱ የቲቢ ቁጥጥርና መከላከል ላይ ተህዕኖ ፈጥሮ ቆይቷል፡፡ ይህንን ችግር ለመቅረፍ ታካሚዎችን በቀጥታም ሆነ በተዘዋዋሪ የሚያጋጥማቸዉን ተጨማሪ ወጪዎች ማወቅ አስፈላጊ ነዉ፡፡

የጥናቱ ዓላማ

የዚህም ጥናት ዋና ዓላማ የቲቢ ህመምተኞችንና ቤተሰቦቻቸዉን የሚያጋጥሙ ወጪዎች የዳሰሳ ጥናት ማከናወን ነዉ፡፡ ስለዚህ የቲቢ ታማምዎችና ቤተሰቦቻቸዉ ስለሚያጋጥማቸዉ ተጨማሪ ወጪዎች የተመለከቱ መጠይቅ ልናደርግልዎ አስበናል፡፡ ይህ መጠይቅ ከ 30 እስከ 45 ደቂቃ ልፈጅ ይችላል፡፡

የጥናቱ ተሳታፊዎች መብት

የሚሰጡት መረጃ ለዚህና ለዚህ ጥናት ዓላማ ብቻ የሚዉል ይሆናል፡፡ ሚስጥራዊነቱም የተጠበቀ ነዉ፡፡ የሚሰጡት መረጃ በኮድ ብቻ በሚስጥር ተይዞ የሚቆይ ይሆናል፡፡ ተሳታፊዎችም በማንኛዉም ጊዜ ላለመሳተፍ ይችላሉ፤ መጠይቁንም ማቋረጥ መብታቸዉ ነዉ፡፡

የተሳታፊነት ጥቅምና ጎናዊ ተህዕኖ

በዚህ ጥናት በመሳተፍዎ ትንሽ ጊዜ ከመሰዋትዎ በስተቀር ምንም ጉዳት አይደርስብዎትም፡፡ መጠይቁ በዚህ ተቋም በሚያገኙት አገልግሎት ላይ የሚያስከትለዉ ተህዕኖ የለም፡፡ ለጊዜዎትና ለተራንስፖርት ማካካሻ ይታሰብሎታል፡፡
ጥያቄዎችን አስመልክቶ ግልፅ ያልሆኑ ነገሮች ካሉ ወይም ጥያቄ ካለዎት መጠየቅና ማብራሪያ ማግኘት ይችላሉ፡፡ የዚህን ጥናት መሪ ተመራማሪዉንም ሆነ የአህሪና አለርት የጥናት ኤቲክስ አጣሪ ኮሚቴ በሚከተለዉ አድራሻ ማግኘት ይችላሉ፡፡

ኢ-ሜይል አድራሻ asmeromhiwot5@gmail.comስልክ ቁጥር 0911-48-35-71.

ጥናት አጣሪና ክትትል ኤቲክስ ኮሚቴ አድራሻ:ahri.alerterc@ahri.gov.et

በዚህ ጥናት ለመሳተፍ ፍቃደኛ ነዎት? (ያክብቡ) አዎ / የለም

አዎ ከሆኑ እናመሰግናለን!

መልሱ አልሳተፍም ከሆኑላለመሳተፍ የወሰኑበት ምክንያት ይኖራል?

1. የቋንቋ ችግር 2. የጊዜ እጥረት 3. ደስተና አይደለሁም 4. አልተገለፀም

ክፍል I: የታካሚዉ መረጃ

የታካሚዉ መረጃ (በቃለ መጠይቅ አዲራጊዉ ከታካሚዉ ካርድ ላይ የሚሞላ፡፡ ታማሚዉ ቃለ መጠይቁን እምቢ ቢልም ይሞላ)	
ጥ101: ፆታ	2. ወንድ 2. ሴት
ጥ102: የታካሚዉ እድሜ	_____ (በዓመት)
ጥ103: የቲቢዉ ዓይነት	2. መድሃኒት የተላመደ (የሳምባ) 2. እ.በ.መድሃኒት የተላመደ(የሳምባ) 3.መድሃኒት የተላመደ (ከሳምባ ዉጪ) 4. እ.በ.መድሃኒት የተላመደ(ከሳምባ ዉጪ) 5. ሌላ (ይገለፅ) ____
ጥ104: የታቀደ አጠቃላይ የህክመና ቆይታ (አክብብ)	1. 18 ወራት) 2. 20 ወራት 3. 24 ወራት 4. ሌላ_____
ጥ105: በከዚህ ቀደም መድሃኒት አ ጠቃቀም መሰረት የበሽታዉ መደብ (አክብብ)	1. አዲስ 2. በመጀመሪያ ደረጃ መድሃኒቶች ከዚህ ቀደም ታክሟል 3.በሁለተኛ ደረጃ መዲሃኒቶች ከዚህ ቀደም ታክሟል 4.ሌላ____
ጥ106: በመዝገብ መደብ ላይ ተመስርቶ የበሽታዉ መደብ	1. አዲስ 2. ያገረሸ 3. ክትትል ካቋረጠ በኃላ የሚሰጥ ህክምና 4.በመጀመሪያ ደረጃ ህክምና በለመሻሉ የሚሰጥ ህክምና 5. በሁለተኛ ዙር ህክምና በላመዳኑ የሚሰጥ ህክምና 6. ከሌላ የህክምና ተቋም የመጣ 7. ሌላ (ይገለፅ)____
ጥ107: በአሁን ሰዓትበintensive ወይም continuation ዙር?	2. Intensive phase 2. Continuation phase
ጥ108: የህክምና መደብ	2. መደብ አራት (መድሃኒት የተላመደ ቲቢ) 2.ሌላ____
ጥ109: የመዲሃኒቱ ሬጅመን	ሬጅመኑን በስታንዳርድ ፎርም ይፃፉ:
ጥ110: የዚህ መጠይቅ ሰጪ ማነዉ	2. ራሱ በሽተኛዉ 2. የህክምና ድጋፍ ሰጪ/ጠባቂ 3. ሌላ
ጥ111: የኤች.አይ.ቪ ሁኔታ (በበሽተኛዉ ካርድ ላይ ከተመላከተ ብቻ የሞላ) 1. +ve 2. —ve 3.አይታወቅም 4. አይገለፅም	

ቀደም ብሎ በተገለፀዉ የመካተት አለመካተት መስፈርት ላይ ተመስርተዉ ወደሚቀጥለዉ ይሸጋገሩ!

ጥ112:የምርመራ ቀን (አክታ የተሰጠበት ወይም የራጅ ምርመራ ቀን (ቀን/ወር/ዓመት): _____	ጥ113: ህክምና የተጀመረበት (ቀን/ወር/ዓመት): _____

ክፍል II: ከዚህ ቀደም ስለነበረዉ ህክምና

ጥ201a: ከዚህ በፊት የቲቢ ህክምና ወስደዉ ያዉቃሉ? ከታካሚዉ ካርድ ጋር ያመሳክሩ; መልሱ አይ ከሆን ወደ ጥያቄ 301ይለፉ	አዎ (ወር/ዓመት፡ህክምና ያለቀበት _____ 2. አይደለም
ጥ201b: መልሱ አዎ ከሆነ: ከዚህ ቀደም የነበረዉን የቲቢ ህክማ ጨረሰዋ	1. አዎ 2. አይደለም
ጥ201c: መልሱ አይደለም ከሆነ: ለምን?	2. ለህክምና ወጪ የብር እጦት 2. የመዲሃኒት የጎንዎሽ ጉዳት 3. Moved 4. ከህክማና ተቋም ያለዉ ርቀት 5. ሌላ(ይገለፅ)_____

ክፍል III: መዘግየት(Delay), ከምርመራ በፍት እና የምርመራ ወጪ

ጥ301: አሁን ላሉበት ህመም ህክምና ለማግኘት ያስገደዶት የህመም ምልክት ምንድነዉ? ወደ ህክምና ተቋም ከመሔዶት በፊት ይህ ምልክት ምን ያህል ጊዜ ቋይቶቦታል?

1. ሳል አዎ ☐ አይደለም ☐ _____ወር 2. ሌሊት ማላብ አዎ☐ አይደለም☐ _____ወር
3.ደም የቀላቀለ ሳል አዎ☐ አይደለም☐ _____ወር 4. የክብደት መቀነስ አዎ☐ አይደለም☐ _____ወር
5.ሌላ(ይገለፅ) አዎ☐ አይደለም☐ _____ወር

ጥ302: ለሚከተሉት ምልክቶች ህክምና ወይም የምክር አገልግሎት ለማግኘት ሚክረዋል? ምልክት ያድርጉ

1. ሆስፒታል አዎ☐ አይደለም☐ 2. ጤና ጣቢያ አዎ☐ አይደለም☐ 3.ፋርማሲ አዎ ☐ አይደለም ☐ 4. የግል ክልኒክ/ሆስፒታ አዎ
አይደለመ 5. የባህል ሀኪም ☐ዎ አይደለም ሌላ (ይገለፅ)_____☐_____

ጥ303: በጥያቄ 302 ከመንግስት አገልግሎት አቅራቢ ሌላ ከተመረጠ: ለምን ወደ መንግስት ተቋም (ሆስፒታል/ጤና ጣቢያ) አልሄዱም? በጣም ተገቢ የሆነዉን ያክብቡ፡፡

1.ከጤና ተቋም ያለዉ ርቀት 2. በጣም ዉድ ስለሆነ 3. መጠበቁ ጊዜ ስለምወስድ 4. የተቋማት እጥረት 5. በመንግስት በሚሰጠዉ አገልግሎት ያለመተማመን 6. በእምነት የተነሳ 7. መድሃኒት ባለመኖሩ 8. ሌላ (ይገለፅ)

ጥ305a) ምርመራና ህክምና	_____በእግር (በሰዓት) _____ በትራንስፖርት(በሰዓት) ሌላ:_____
ጥ305b) ህክምና ብቻ	_____በእግር (በሰዓት) _____ በትራንስፖርት(በሰዓት) ሌላ:_____

ጥ306: የቲቢ በሽታ እስክገኝቦት ቀን ድረስ ቀጥሎ ለተዘረዘሩት አገልግሎቶች ምን ያህል ከፍለዋል ? (በሽታዉ የተገኘበት ቀን የወጣዉን ወጪ ያካቱ, መልስ ለሌለዉ የለም ይበሉ፡፡ ለአንድ ጊዜ ጉብኝት አንዱን መስመር ይሙሉ፡፡

	ህክምና ሰጪ ተቋም (ታካሚዉ አገልግሎት ካገኘበት ከጥያቄ xy ይገልብጡ	ለአንድ ጊዜ ጉብኝት ተፈጆ ጊዜ(የጉዞን ጨምረዉ በሰዓት ይፃፉ)	አስተዳደራዊ ወጪ(የማማከርና ምዝገባ)	የምርመራ ወጪ/ላቦራቶሪ(ለአክታና ሌሎች ከራጅ ዉጪ)	የራጅ ወጪ(ለራጅ ወደ ራዲዎሎጅስት የተላኩበትን የጉዞ ጨምሮ)	የመዲሃኒት ወጪ(ሁሉንም ወጪ በአንድ)	የጉዞ ወጪ(የሄዶ መልስ አጠቃላይ)	የምግብ ወጪ (አጠቃላይ)	የመኝታ ወጪ(አጠቃላይ)	አጠቃይወጮ(ለአንድ ጊዜ ጉብኝት)	በኢንሹራንስ የተከፈለ/ Reimbursement አዎ ከሆነ፡ መጠን: , የለም ከሆነ፡ የለም ይሙሉ
ጉብኝት 1											
ጉብኝት 2											
ጉብኝት 3											
ጉብኝት 4											
ጉብኝት 5											
ጉብኝት 6											
ጉብኝት 7											
አጠቃላይ	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____

አጠቃላይ ቅድመ-ምርመራና የምርመራ ወጪ ሲቀነስ ኢንሹራንስ = _____የከረንሲ ስም_____

ክፍል IV: የህክምና ወጪ

ከDOT ጋር የተያያዘ ወጪ	
ጥ401a) በአሁን ሰዓት የቲቢ መዲሃኒት የሚወስዱት ከዬት ነዉ? ታካሚዉ መዲሃኒት የወሰዱት ከሁለት የተለያዩ ተቋማት ከሆነ፤ ያሁኑን ተቋም ምልክት ያድርጉና የዚህን ተቋም ወጪ ሪፖርት ያድርጉ DOT እቤት ከሆነ ወደ ጥያቄ 405 ይዝለሉ፡፡ 1. የጤና ተቋም/ሆስፒታል 2. ቤት 3. ማህበረሰብ አቀፍ 4. የስራ ቦታ 5. መዲሃኒት መሸጫ መደብር ጥ401b) መዲሃኒት ለመዉሰድ በሳምንት ምን ያህል ጊዜ ይመላለሳሉ? □ 3 ጊዜ □ 5 ጊዜ □ 6 ጊዜ □ሌላ_____	
ጥ402: እዚያ ለመድረስ ምን ያህል ጊዜ ይወስዳል (አንድ አቅጣጫ)	_____በእግር (በሰዓት) _____ ትራንስፖርት (በሰዓት) ሌላ:_____
ጥ403: በመንገድ ላይ የሚጠፋዉን ጊዜና በጤና ተቋም ለመጠበቅ የሚወስደዉን ጨምሮ ምን ያህል ጊዜ ይወስዳል (ሄዶ መልስ)?	በሰዓት____
ጥ404: ከቤት እስከ DOT ቦታ በትራንስፖርት ቢሆን ምን ያህል ያስከፍላል? (ሄዶ መልስ)	_____(በኢትዮጵያ ብር)
ጥ405: ለምግብ ወደ ጤና ተቋም ሲጓዙና ተራ ሲጠብቁ ም ያህል ያወጣሉ?	_____(በኢትዮጵያ ብር)
መድሃኒት ለመቀበል(ለመሰብሰብ) የሚወጣ ወጪን የተመለከተ፡፡ በአሁን ሰዓት መዲሃኒቶቹ ከሚወሰዱበት ቦታ	
ጥ406: በወር መዲሃኒት ለመቀበል ጤና ተቋም ምን ያህል ጊዜ ይመላለሳሉ?	____ጊዜ / በወር
ጥ407: እዚያ ለመድረስ ምን ያህል ጊዜ ይፈጃል (አንድ አቅጣጫ)	_____በእግር (በሰዓት) _____ ትራንስፖርት (በሰዓት) ሌላ:_____
ጥ408: ከነዚህ አንዱ ጉዞ ምን ያህል ጊዜ ይፈጃል? በመንገድ የሚጠፋዉን ጊዜና በጤና ተቋም ለተራ ጥበቃ የሚወስደዉን ያካቱ (ደርሶ መልስ)	በሰዓት____
ጥ409: በትራንስፖርት ቢሆን ከቤት እስከ ጤና ተቋም ምን ያህል ያስወጣል? (ደርሶ መልስ)	_____(በኢትዮጵያ ብር)
መዲሃኒት ለመቀበል ወደ ጤና ተቋም በሚሄዱበት ቀን በመንገድና በተቋሙ ለምግብ ምን ያህል ያወጣሉ? (በመንገድ ላይ፤ ለምሳ እና ተራ ሲጠብቁ ያለዉን ያካቱ)	_____(በኢትዮጵያ ብር)
ጥ410a) መዲሃኒት በሚቀበሉበት ጊዜ አስተዳደራዊ ወጪ የሚያወጡት አለ? አይደልም ከሆነ ወደ ጥያቄ 411 b) ይዝለሉ አዎ ከሆን ምን ያህል?	1. አዎ 2. የለም
ጥ411a) የቲቢ መድሃኒት ለመዉሰድ ሲሄዱ የመኝታ አገልግሎት ያስፈልጎታል? አይደልም ከሆነ ወደ ጥያቄ ጥ412. b) አዎ ከሆን ምን ያህል?	1. አዎ 2. የለም
ለክትትል ምርመራ የሚወጣን ወጪ የተመለከተ	
ጥ412a) ህክምና ከጀመሩበት ጊዜ አንስቶ ከመደበኛ ጉብኝት መርሃ ግብር ዉጪ ለክትትል ምርመራ ወደ ጤና ተቋም ሄደዉ ያዉቃሉ?መልሱ የለም ከሆነ ወደ ጥያቄ ጥ413 ይዝለሉ	1. አዎ 2. የለም
ጥ412b) መልሱ አዎ ከሆነ ምን ያህል ጊዜ?	_____ጊዜ
ጥ412c) መልሱ አዎ ከሆን ተጨማሪ ወጪ መክፈል ይጠበቅቦታል?	1. አዎ 2. የለም
ጥ412d) ከሆነ ምን አይነት ወጪዎችና ምን ያህል? ክፍያ_____ ለአክታ ምርመራ _____ ራጅ_____ ለቲቢ መድሃኒት_____ ሌሎች መዲሃኒቶች_____ ሌላ_____	_____አጠቃላይ
ጥ412e) ከነዚህ ጉብኝቶች አንደኛዉ ምን ያህል ጊዜ ይወስዳል-በመንገድ የሚጠፋዉን፤ ተራ ለመጠበቅ የሚወስደዉን እና ለምርመራ የሚወስደዉን ጊዜያካቱ, (ደርሶ መልስ)?	_____ሰዓት
የአስታማሚዎች ወጪ/የአጋዥ ወጪዎች	

ጥ413a) የቲቢ መድሃኒት ለመቀበል ሲሄዱ አብሮት የሚንዝ የቤተሰብ አባል ወይም ሌላ ሰዉ አለ? ወይም በርሶ ፈንታ ሄዶ የሚቀበል አለ?መልሱ የለም ከሆነ ወደ ጥያቄ 414 ይዝለሉ	1. አዎ 2. የለም
ጥ413b) መልሱ አዎ ከሆነ ይህ ሰዉ ከርሶ ጋር ወይም በርሶ ፈንታ ምን ያህል ጊዜ ሄዶዋል? ቅድመ ምርመራ፤ ምርመራና ህክምና ጉብኝቶችን ለየብቻ ይመዝግቡ መረጃ ሲያስገቡ ይጨርሱ: ቅድመ-ምርማራ/ምርመራ ወጪ: ትራንስፖርት _____ ምግብ _____ መኝታ ____ በህክምና ጊዜ በአንድ ጉዞ የወጣ ወጪ: ትራንስፖርት _____ ምግብ _____ መኝታ _____	____ የምርምራ ጊዜ _____የህክምና ጊዜ አጠቃላይ ለምርመራ: ____ አጠቃላይ ለህክምና:___
ጥ413c) አጋዥ/ጓደኛ ወይም የቤተሰብ አባል በቀን ስንት ገቢ ይኖረዋል?	3. _____ 4. ገቢ የለዉም
ጥ413d) ሌላ ሰዉ ለምን አብሮት ይሄዳል? 1. ርቀት ስላለዉ 2. ለደህንነት 3. አስተዳደራዎ ችግር 4. በህመም የተነሳ ብቻዬን መንዝ ስለማልችል 5. ለህክምና አገልግሎት ተፈልጎ 6. ሌላ (ይገለፅ)	
ተኝቶ ህክምና	
ጥ414: በቲቢ ህክምናዎት ወቅት ተኝቶ መታከም አስፈልጎት ያዉቃል? መልሱ የለም ከሆነ ወደ ጥያቄ 423 ይዝለሉ፡፡	1. አዎ 2. የለም
ጥ415: መልሱ አዎ ከሆነ በሆስፒታል ምን ያህል ቀን ቆዩ?	_____ቀን
ጥ416: በሆስፒታል አጠቃላይ ቆይታዎ ምን ያህል ወጪ አወጡ? የሆስፒታል አገልግሎት ክፍያ:____ ለአንሶላ:_____ መግብ (በሆስፒታሉ የማይቀርብ ከሆነ): _____ ለመመለሻ ትራንስፖርት _____መዲሃኒት: _____ለምርመራ: _____ሌሎች ወጪዎች:	_____አጠቃላይ
ጥ417: ሌላ ሰዉ ወይም የቤተሰብ አባል በሆስፒታል ቆይታዎ አብሮት ነበር? መልሱ የለም ከሆነ ወደ ጥያቄ 423.	1. አዎ 2. የለም
ጥ418: መልሱ አዎ ከሆነ ምን ያህል ቀን አብሮት ነበር(አዳር ጨምሮ)?	_____ቀን
ጥ419: ዘመድዎ አብሮት በመቆየቱ ተጨማሪ ወጪ ነበረበት? መኝታ (ሆስፒታል ወይም ሌላ):_____ ምግብ: _____ትራንስፖርት:_____ ሌላ ወጪ:_____	1. አዎ 2. የለም አጠቃላይ ወጪ:_____
ጥ420) ዘመድዎት/አጋገዮት የቀን ገቢዉ ምን ያህል ይሆናል?	3. _____ 4. ገቢ የለዉም
ጥ421a) ሌላ የቤተሰብ አባል ወይም ዘመድ በሆስፒታል ቆይታዎ ወቅት ጠይቆዎት ያቃል? መልሱ የለም ከሆነ ወደ ጥያቄ 423. b) አዎ ከሆነ ,ስንት ሰዉ ጎብኝቶዎታል? c)ምን ያህል ጊዜ ግብኝቶዎታል? በሰዉ የመኝታ:_____ በሰዉ የምግብ:_____ በሰዉ የትራንስፖረት:_____ ሌላ:_____	1. አዎ 2. የለም _____ሰዎች _____ጊዜ አጠቃላይ የጉብኝት ጊዜ_____ በሰዉ አጠቃላ ወጪ_____
ጥ422: ጉብኝቶ የጉዞን ጨምሮ ምን ያህል ሰዓት ይፈጃል?	_____በሰዓት
ተጨማሪ ምግቦችን ጨምሮ ሌሎች ወጪዎች	

ጥ423a: ተጨማሪ መዲሃኒቶች በቲቢዉ በሽታ የተነሳ መግዛት ይጠበቅቦት ነበር? ለምሳሌ ቫይታሚኖች፣ ስጋ፣ ሀይል ሰጪ መጠጦች፤ ፍራፍረዎችና መድሃኒቶች? መልሱ የለም ከሆነ ወደ ጥያቄ 501 ይለፉ	1. አዎ 2. የለም
ጥ423b) መልሱ አዎ ከሆነ: ምን ዓይነት ምግብ? (ይገለፅ) 1. ፍራፍሬ 2. መጠጥ 3. ቫይታሚን/ባህላዊ 4. ስጋ 5. ሌላ (ይገለፅ):_____	
ጥ423c) በነዚህ የምግብ ዓይነቶች በባለፈዉ ወር ዉስጥ ብቻ ስንት አዉጥተዉባቸዋል?	_____(በኢትዮጵያ ብር)

ክፍል V: ሌሎች ህመሞች

ጥ501a) ለረጅም ጊዜ የቆየና ህክምና የሚያስፈልገዉ ተጨማሪ ህመም አለብዎ? መልሱ የለም ከሆነ ወደ ጥያቄ 502	1. አዎ 2. የለም
ጥ501b) መልሱ አዎ ከሆነ ምን?	_____
ጥ501c) እስካሁን ከነገሩን ወጪዎች ዉጪ ከዚህ ህመም ጋር በተያያዘ የሚያወጡት ተጨማሪ ወጪ አለ? መልሱ የለም ከሆነ ወደ ጥያቄ 502 ይለፉ	1. አዎ 2. የለም
ጥ501d) መልሱ አዎ ከሆነ: ይህ ወጪ በወር በአማካይ ስንት ይሆናል? የምርመራ:_____ መዲሃኒት: _____ትራንስፖርት:_____ ምግብ: _____ሌላ:_____	አጠቃላይ:_____
ጥ502: ለጤና ግልጋሎት ከቲቢዉ ህመም በፊት በወር በአማካይ ስንት ያወጡ ነበር?	_____(በኢትዮጵያ ብር)
ጥ503: ለጤና ግልጋሎት በአሁን ሰዓት በወር በአማካይ ስንት ያወጣሉ?	_____(በኢትዮጵያ ብር)

ክፍል VI: ኢንሹራንስ

ጥ601a) ማንኛዉም ዓይነት የመንግስት ወይም የግል የጤና ኢንሹራንስ አለዎት? መልሱ የለም ከሆነ ወደ ጥያቄ 701 ይለፉ	1. አዎ 2. የለም
ጥ601b) መልሱ አዎ ከሆነ: ምን ዓይነት? 1. ለወጣ ወጪ የሚተካ 2. ወራዊ የህክምና አበል 3. ከድጋፍ ሰጪ/በጎ አድራጊ ድርጅት 4. የቤተሰብ/የማህበሰብ እርዳታ ድጎማ 5. የምዕራባዉያን አሰራር (ዉል) 6. ሌላ (ይገለፅ)	
ጥ602c) ከቲቢ ህመም ጋር በተገናኘ ማንናዉንም ዓይነት ድጎማ ተቀብለዉ ያዉቃሉ? ከጥያቄ xy ጋር ያመሳክሩ (ስለ ቅድመ ምርመራና፤ ምርመራ የሚያወራዉ ጥያቄ ማለት ነዉ ።። መልሱ የለም ከሆነ ወደ ጥያቄ 701	1. አዎ 2. የለም
ጥ602d) በድጎማ መልኩ ምን ያህል ተቀብለዋል?	_____(በኢትዮጵያ ብር)

Part VII: ወጪዎችን መቋቋም

ጥ701): በቲቢ ህመም የተነሳ የተለያዩ ወጪዎችን ለመሸፈን ብር ተበድረዉ ያዉቃሉ? መልሱ የለም ከሆነ ወደ ጥያቄ 702	1. አዎ 2. የለም
ጥ701a: መልሱ አዎ ከሆነ ምን ያህል ብር ተበድረዋል?	_____(በኢትዮጵያ ብር)

ጥ701b: የተበደሩት ከማን ነዉ? በጣም ተገቢ የሆነዉን ብቻ ያክብቡ	1.ቤተሰብ 2. ጎረበት/ጓደኛ 3. የግል ባንክ 4. ሌላ (ይግለፁ):_____
ጥ701c: የብድር ወለዱ ምን ያህል ነበር? (በ%)	1. ከ 5% በታች 2. ከ 5 -10% 3. ከ 10% በላይ 4. ወለድ አልክፍልም 5. ብድሩን መልሼ መክፈል አይጠበቅብኝም
ጥ702 a: የቲቢ የህክምናና ምርመራ ወጪዎችን ለመሸፈን ብለዉ የግል ንብረትዎን ሸጠዉ ያዉቃሉ? መልሱ የለም ከሆነ ወደ ጥያቄ 801	1. አዎ 2. የለም
ጥ702b: መልሱ አዎ ከሆነ ምን ሸጡ? ተገቢ የሆነዉን ብቻ ያክብቡ	1. መሬት 2. የቁም እንስሳ 3. ተሽከርካሪ 4. የቤት እቃ 5. የእርሻ ምርት 6. ሌላ (ይገለፅ):_____
ጥ702c: የተሸጠዉ ንብረት አማካይ የገበያ ግምት ዋጋ ምን ያህል ነዉ?	_____(በኢትዮጵያ ብር)
ጥ702d: ከንብረት ሽያጩ ምን ያህል ገቢ አግኝተዋል?	_____(በኢትዮጵያ ብር)
ጥ703: ቤተሰብዎ ለቲቢ ህክምና ወጪ ለመፈሸፈን በባንክ የተጠራቀመን ገንዘብ ይጠቀማል?	1. አዎ 2. አይደለም
ጥ703a: መልሱ አዎ ከሆነ፡ ምን ያህል ወጪ አረጋችሁ a) የቲቢ ህክምና ከመጀመሩ በፊት? b) በመጀመሪያዎቹ የህክምና ወራት? c) በቀጣዮቹ ወራት? d) በአጠቃላይ	_____ህክምና ከመጀመሩ በፊት _____በመጀመሪያዎቹ ወራት _____በቀጣዩቹ ወራት _____አጠቃላይ (ETB)
ጥ704: በቲቢ ህመምዎ የተነሳ ለቤት እገዛ ለማድረግ ሲባል ከት/ቤት ወይም ከስራ ያቋረጠ የቤተሰብ አባል አለ?	1. አዎ, _____ሰዎች 2. አይደለም ...መልሱ አይደለም ከሆነ ወደ ጥያቄ 801ይለፉ
ጥ704a: የጥ.ቁ Q704 አዎ ከሆነ: እድሜና ፆታ እንዲሁም ለምን ያህል ጊዜ እንዳቋረጡ ይጥቀሱ?	1. እድሜ: __ ፆታ: __ ቆይታ:__ ወራት 2. እድሜ: __ ፆታ: __ ቆይታ:__ ወራት 3. እድሜ: __ ፆታ: __ ቆይታ:__ ወራት

ክፍል VIII: ማህበራዊና ኢኮኖሚያዊ መረጃ የግለሰቡ ሁኔታና ገቢ

ጥ801: በቤት ዉስጥ ዋነኛ የገቢ ምንጭ ማነዉ? በጣም ተገቢ የሆነዉን ያክብቡ	1. ረሱ ህመምተኛዉ 2. ሚስት/እናት 3. ባል/አባት4.ሌላ የቤተሰብ አባል 5. ልጅ 6. ሌላ (ይገለፅ)
ከፍተኛዉ የትምርት ደረጃዎ ስንት ነዉ (ለሚከተሉት).....? ጥ802: የታካሚዉ?	1. ያልተማረ 2.የመጀመሪያ ደረጃ 3. 2ኛ ደረጃ 4. የተመረቀ/ሰርቲፊኬት ያለዉ/ያላት 5. ሌላ (ይገለፅ)
ጥ802: ዋነኛ የገቢ ምንጭ የሆነዉ?	1. ያልተማረ 2. የመጀመሪያ ደረጃ 3. 2ኛ ደረጃ 4. የተመረከ/ሰርቲፊኬት ያለዉ/ያላት 5. ሌላ (ይገለፅ)
ጥ803: የቤተሰቡ ራስ/ዋና	1. ያልተማረ 2. የመጀመሪያ ደረጃ 3. 2ኛ ደረጃ 4. የተመረከ/ሰርቲፊኬት ያለዉ/ያላት 5. ሌላ (ይገለፅ)
ጥ804: የቤተሰቡ ራስ ሚስት/ባል? ከአንድ በላይ የትዳር ጓደኛ ከለካለች በት/ም ትልቁን ይምረጡ	1. ያልተማረ 2. የመጀመሪያ ደረጃ 3. 2ኛ ደረጃ 4. የተመረከ/ሰርቲፊኬት ያለዉ/ያላት 5. ሌላ (ይገለፅ)
ጥ805: በአሁን ሰዓት በመደበኛነት ተቀጥረዋል? መጀመሪያ አማራጮቹን ያንብቡላቸዉ	1. አዎ መደበኛ ስራ አለኝ, ወደ ጥያቄ ቁጥር 808 ይለፉ 2. አይ, መደበኛ ያልሆነ ስራ፤ ወደ ጥያቄ ቁጥር 808 ይለፉ 3. በህመም ምክንያት እረፍት ላይ ነኝ፤ ወደ ጥያቄ ቁጥር 806 ይለፉ 4. ጡረታ ወጥቻለሁ፤ ወደ ጥያቄ ቁጥር 806 ይለፉ 5. ት/ም ቤት/ዩኒቨርሲቲ፤ ወደ ጥያቄ ቁጥር 811a ይለፉ)

	6. የቤት እመቤት/ቤት ዉስጥ ስራ ብቻ፤ ወደ ጥያቄ 808 ይለፉ 7. ጥምር ስራዎች ካለ (ይግለፁ) 8.ሌላ(变ገለፅ)
ጥ806:ያለመስራቱ ዋነኛ ምክንያት የቲቢ ህመሙ ነዉ?	1. አዎ 2. የለም
ጥ807: መልሱ አዎ ከሆነ ለመጨረሻ ጊዜ ይሰሩ የነበረዉ መች ነዉ? (ወ/ዓ.ም)	_____(ወር/ዓ.ም)
ጥ808: እንዴት ነዉ የሚከፈለዎት?	1.በካሽ 2. በዓይነት 3. በካሽና በዓይነት 4. አይከፈለኝም 5. በባንክ የሚተላለፍ ደሞዝ 6. ሌላ ካለ ይገለፅ
ጥ809: ከቲቢ ህመም በፊት የወር ገቢዎ በግምት ስንት ነበር? (የአካል ጉዳት ክፈያ፤ እና ሌላ መህበራዊ ድጋፍ ካለ ያካቱ): 1. ከ _____ በታች በሳምንት 2. ከ _____ እስከ _____ በሳምንት 3. ከ _____በላይ በሳምንት 4. ምንም ገቢ የለኝም	
ጥ810: በአሁን ሰዓት ወራዊ ገቢዎ በግምት ስንት ይሆናል? (የአካል ጉዳት ክፈያ፤ እና ሌላ መህበራዊ ድጋፍ ካለ ያካቱ): 1. ከ _____ በታች በሳምንት 2. ከ _____ እስከ _____ በሳምንት 3. ከ _____በላይ በሳምንት 4. ምንም ገቢ የለኝም	
የጥያቄ 810 ከ 809 የሚለይ ከሆነ: ጥ811: ለዉጡ ከቲቢ ህመም ጋር በተገናኘ ነዉ?	1. አዎ 2. የለም
ጥ811a: በቲቢ ህመሙ የተነሳ ስራ አቁመዉ/ወደ ት/ም ቤት ወይም የቤት ዉስጥ ስራዎን አቁመዉ ያዉቃሉ? መልሱ የለም ከሆነ ወደ ጥያቄ 812a ይለፉ	1. አዎ 2. የለም
ጥ811b: መልሱ አዎ ከሆነ: ለምን ያህል ጊዜ?	1.ከወር ላነሰ ጊዜ 2. ለአንድ ወር 3.ከ 2-3 ወራት 4. 4-5 ወራት 5. ከ 6 ወራት በላይ
ጥ812a: እርስዎን ለመንከባከብ ሲባል ቤት ከርሶ ጋር የሚሆን ግለሰብ አለ? መልሱ የለም ከሆነ, ወደ ጥያቄ 813 ይለፉ	1. አዎ 2. የለም
ጥ812b፡ መልሱ አዎ ከሆነ : ለምን ያህል ጊዜ?	_____ሳምንታት
ጥ812c፡ ከርሶ ጋር ቤት ዉስጥ እንዲሆኑ በመፈለጉ ምክንያት ገቢ የሚያስገኝላቸዉን ስራ አቁመዉ ያዉቃሉ?	1. አዎ 2. የለም
ጥ813: በቲቢ በሽታ ከመያዝዎ በፊት በመደበኛነት የመስራቱ ነገር ምን ይመስል ነበር?	1. ዓመቱን ሙሉ 2. ወቅታዊ/በከፊል 3. የቀን ስራ 4. ሌላ ካለ ይገለፅ
ጥ814: በቲቢ ህመም የተነሳ ስራ መቀየር አስፈልገዎት ነበር?	1. አዎ 2. የለም
ጥ815: ዋነና ስራዎ ምንድነዉ? ተገቢ የሆነዉን ሁሉ ያክብቡ, ከጥያቄ ቁጥር 805 ያመሳክሩ 1. የሽያጭ ስራ 2. ግብርና 3. የቤት ዉስጥ እመቤት/ጌታ 4. ምርት/ማንባታ ላይ 5. ጥምር ስራ (ይገለፅ) 6.ሌላ (ይገለፅ)_____	
ጥ816: በቲቢ ህመም ከመታመምዎ በፊት በቀን በአማካይ ለምን ያህል ሰዓታት ይሰሩ ነበር?	_____በሰዓት
ጥ817: በአሁን ሰዓት በቀን በአማካይ ለምን ያህል ሰዓታት ይሰራሉ?	_____በሰዓት
የጥያቄ ቁጥር 817 መልስ ከጥያቄ ቁጥር 816 የሚለይ ከሆነ: ጥ818: ይህ በቀን የሚሰሩት የሰዓታት ልዩነት የመጣዉ በቲቢዉ ህመም ምክንያት ነዉ?	1. አዎ 2. የለም
የጥያቄ ቁጥር 817 መልስ ከጥያቄ ቁጥር 816 የሚለይ ከሆነ: ጥ819a: ይሰሩ የነበረዉን ስራ በአሁን ሰዓት ሌላ ሰዉ እየሰራልዎ ነዉ? ጥ819b:1. ሴት ልጅ 2. ወንድ ልጅ 3. የትዳር ጓደኛ 4.ጓደኛ 5. ማንም 6. ሌላ (ይገለፅ)	

ጥ820a: ልጆች ወይም ክት/ም እድሜ በታች የሆነ ልጅ አለምት? መልሱ የለም ከሆነ,ወደ ጥያቄ 821a ይለፉ	1. አዎ 2. የለም
ጥ820b: ለት/ም እድሜ የደረሱ ልጆችዎ ሁሉም በመደበኛነት ወደ ት/ም ቤት ይሄዳሉ? መልሱ አዎ ከሆነ ወደ ጥያቄ 820d ይለፉ	1. አዎ 2. የለም
ጥ820c: መልሱ የለም ከሆነ:ለምን? ተገቢ የሆነዉን ያክብቡ 1. የቤት ዉስት ስራ ማገዝ ስለሚገባቸዉ 2. የት/ም ቤት ወጪ መሸፈን ስላልተቻለ 3. ታመዉ ስለሆነ 4. ገቢ ለማግኘት መስራት ስላለባቸዉ 5.ሌላ(ይገልፅ):	
ጥ820d: ከልጆችዎ የቲቢ ህመም ወጪን ለመሸፈን ሲባል የሚሰሩ አለ/ሉ?	1. አዎ 2. የለም
የቤት ዉስጥ ስራዎን ለመሸፈን ሲባል ሌላ የሚያሰሩት ግለሰብ አለ፤ ከሆነ በቀን ምን ያህል ይከፍሉታል? ጥ821a: በህመምዎ ጊዜ	_____
ጥ821b:በጤንነትዎ ጊዜ	_____
ጥ822: በገቢ ራስዎን የቻለ ግለሰብ ነዎት?	1. አዎ 2. የለም
ጥ823a: የቲቢ ህመሙ የግልና የማህበራዊ ህይወትዎን በአንድም በሌላ መንገድ ጎድቶታል? መልሱ የለም ከሆነ ወደ ጥያቄ ቁጥር 824. 1. የለም 2. ፍቺ 3. ስራ ማቋረጥ 4. ከት/ም ቤት ማቋረጥ 5. ከትዳር ጓደኛ መለየት 6. የወሲብ ህይወት መበላሸት 7. የታመመ 8. ሌላ (ይገለፅ):_____	
ጥ823b: መልሱ አዎ ከሆነ: ይህ ሁኔታ የፋይናንስ ጫና ዉስጥ አስገብተዎታል?	1. አዎ 2. የለም
ጥ824: ብሄርዎ ምንድነዉ? አማራ 2. ኦሮሞ 3. ትግሬ 4. ሲዳማ 5. ወላይታa 6. አፋር 7. ጉራጌ 8. ሶማሌ 7. ሌላ ይገለፅ	

ክፍል IV:የቤተሰብ ገቢና ወጪዎች

ጥ901: ከቲቢ ህመሙ በፊት የቤተሰብ ገቢዎ ምን ያህል ነበር ? (የህመምተኛዉን ጨምሮ የሁሉንም የቤተሰብ አባል ይግለፁ፤ ድጋፍም ካለ ይገለፅ) 1. የህመምተኛዉ ገቢ: _____ 2.የቀሪ ቤተሰብ ገቢ _____ 3. ድጋፍ _____ 4. የመንግስት ድጋፍ 5. ሌላ (ይገለጽ): _____ አጠቃላይ:_____	
ጥ902: አማካይ የቤተሰብ ገቢ በአሁን ሰዓት ምን ያህል ይሆናል ? 1. የህመምተኛዉ ገቢ: _____ 2.የቀሪ ቤተሰብ ገቢ _____3. ድጋፍ _____4. የመንግስት ድጋፍ 5. ሌላ (ይገለጽ): _____አጠቃላይ:_____	
ጥ903: መሮሪያ ቤትዎ ዉስጥ በመደበኛነት የአዳር/አንቅልፍ አገልግሎት ያለዉ ማነዉ? (ህመምተኛዉን ጨምሮ) ህመምተኛዉ ብቻዉን የሚኖር ከሆ ወደ ጥያቄ ቁጥር 904 ይለፉና 'መኖሪያ ቤት'ከ 'አንተ/አንቺ' ጋር በሚለዉ ይተኩ	_____
ጥ904: በመስራታቸዉ የሚከፈላቸዉ የቤተሰብ አባላት ስንት ናቸዉ (ህመምተኛዉን ጨምሮ) (ክፊያዉ በዓይነት ወይም በምርት ከሆነ ያካቱ)	
ጥ905a: ከርሶ ሌላ የቲቢ ህክምና እወሰደ ያለ ግለሰብ አለ? መልሱ የለም ከሆነ ወደ ጥያቄ 906 ይለፉ.	1. አዎ 2. የለም
ጥ905b: መልሱ አዎ ከሆነ:ምን በቁጥር ያህል ሰዉ?	_____
ጥ906: ከቲቢ ህመሙ በፊት የቤተሰብዎ አባላት በአማካይ በወር ምን ያህል የምግብ ፍጆታ ነበረዉ? ዋጋዉን ይገምቱ፡ በምርት: _____	
ከቲቢ ህመሙ በፊት ቤተሰቡ ይመገብ የነበረዉ ፍጆታ ቢሸጥ ምን ያህል ያወጣል? (ቤት ዉስጥ ከሚዘጋጀዉ ምግብ በተጨማሪ ለግዢ ምን ያህል የወጣሉ?)	_____

ጥ907: በአሁን ሰዓት አጠቃላይ የቤተሰብ አባላት በወር ምን ያህል የምግብ ፍጆታ አለዉ? ዋጋዉን ይገምቱ፡ በምርት:_____	
በአሁን ቤተሰቡ ይመገብ የነበረዉ ፍጆታ ቢሸጥ ምን ያህል ያወጣል? (ቤት ዉስጥ ከሚዘጋጀዉ ምግብ በተጨማሪ ለግዢ ምን ያህል የወጣሉ?)	_____
ጥ908: የጥያ ቁጥር 907 ከ 906 የሚለይ ከሆነ: የቤተሰቡ የወር ፍጆታ ለዉጡ በቲቢ ህመም የተነሳ ነዉ?	1. አዎ 2. የለም

ክፍል X: ማህበራዊና ኢኮኖሚያዊ አመላካቾች

ጥ1001: የሀይል አቅርቦትዎ እንዴት ነዉ?	1. የራስ	2. በጋራ	3. የለም	
ጥ1002: የመጥ ዉሃ ምንጭ ከዬት ነዉ? 1. የዝናብ ዉሃ 2. ሀይቅ/ኩሬ/ግድብ/ወንዝ 3. የህዝብ ብርካ 4. የግል ጉድጓድ 5. የቧንቧ ዉሃ 6. የታሸገ ዉሃ				
ጥ1003: የሽንት ቤት አገልግሎት እንዴት ነዉ? 1. የለም/አዳሪ ነዉ 2. የጋራ ነዉ 3.በራስ የተያዘ/ጉድጓድ 4. ፍለሻ/ሲንክ				
ጥ1004: ቤትዎ ስንት ክፍል አለዉ? 1. 1 ክፍል 2. 2 ክፍል 3. 3 ክፍል 4. ከ4 ክፍል በላይ				
ጥ1005: አሁን መኖሪያ ቤትዎ የት ነዉ?	1.ከተማ	2. ከተማና የተጨናነቀ አከባቢ	3. ገጠር	4. ሌላ (ይገለፅ)
ጥ1006: የሚኖሩበት ቤት የራስዎ ነዉ?	1. አዎ 2. የለም			
ጥ1007: (ከሚከተሉት ምን ምን አለዎት) 1. ሞባይል 2. የማጠቢያ ማሽን 3. ሞተር ሳይክል 4. ባይስክል 5. መሬት (ይገምቱ መጠኑን) 6. etc…				
ጥ1008: በቲቢ ህመም ምክንያት አሁን በርሶና በቤተሰብዎ ላይ ያለዉን ጫና ለመቀነስ መንግስት እገዛ ማድረግ ቢኖርበት በምን ቢያግዝ ጥሩ ነዉ ይላሉ? አማራጮቹን ይዘርዝሩላቸዉና አንዱን ይምረቱ 1. የትራንስፖርት ነፃ ቲኬት 2. የምግብ/ሬሽን ካርድ 3. የአገልግሎት መሻሻል 4. ሌላ(ይገለፅ):				

ቲቢ በራስዎ ላይ እና በቤተሰብዎ ላይ እያሳደረ ያለዉን ጫና ማወቅ እንፈልጋለን፡፡ ማለትም በዋጋም በስቃይም ያለዉን ወደ ዋጋ ቀይረን መረዳት እንፈልጋልን፡፡
ስለዚህ በቲቢ ከመታመም ይልቅ መከፈል የሚገባን ዋጋ ይገምቱልናል

ጥ1009: እንዲያዉ በቲቢ ከመታመም ይልቅ መከፈል ካለበት እና ህመሙ ቢቀርብኝ ብለዉ የሚያስቡት ምን ያህል ነዉ? 1. ከ _____ በታች 2. ከ _____ እስከ _____ 3. ከr _____በላይ 4. ሌላ (ይገለፅ)_____

ለትብብሮ አመሰግናለሁ! መጠየቅ ወይም ማለት የሚፈልጉት ካለ?

በጠያቂዉ የተሰጠ አስተያየት:

ቀን, የጠያቂዉ ፊርማ:

=====//////=====

ASSURANCE OF PRINCIPAL INVESTIGATOR

I, the undersigned MPH student declare that this thesis is my original work in fulfillment of requirement for the master of public health in General Public Health.

Name of the student: Hiwot Asmerom

Date 15/11/2022

Signature 

APPROVAL OF THE PRIMARY ADVISOR

This thesis work has been submitted with our approval as the university advisor.

Name of the primary advisor: Pro. Alemayehu Worku (Professor)

Date: Nov 16, 2022

Signature 

Personal Data

Name: Hiwot Asmerom
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Summary of Qualification

BSc in Nursing (BSc) GPA 3.8

Education

2012 **Bsc in Nursing**
Medco Bio Medical College, Addis Ababa, Ethiopia

Professional Experience

Oct. 11/2017-To date *ARMAUER HANSEN RESEARCH INSTITUTE (AHRI)*
Position: Assistant Researcher
Organization type: ALERT CAMPUS, ETHIOPIAN MINISTRY OF HEALTH
Responsibility: Study Nurse

- *The Evaluation of a Standardized Treatment Regimen of Anti-Tuberculosis Drugs for Patients with MDR-TB (STREAM)*
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Dec. 2011-Mar. 2015 *FERES MEDA HEALTH CENTER, ADDIS ABABA, ETHIOPIA*
Position: Professional Nurse
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May 2015- Oct. 2017 ALERT Trauma Center
Position: Professional Nurse
Responsibilities: Emergency services at trauma center

Trainings

- ✓ Certificate of Completion on BASIC PMTCT Training Organized by Addis Ababa Regional Health Bureau in Collaboration with PEPFAR/USAID funded intraHealth International Inc. Community PMTCT Project.
- ✓ Certificate for Successfully completing EMERGENCY MEDICINE Training organized by Kirkos Sub-City Health Office Medical Service Delivery Core Process in collaboration with Yekatit 12 Hospital Medical College Surgery Department
- ✓ Certificate for successful completion of Dental Health Training organized by Kirkos Sub-City Health Office Medical Service Delivery core process in collaboration with Addis Ababa University Medical Faculty School of Dental
- ✓ certificate for successful completion of GCP /GCIP training organized by armauer Hansen research institute
- ✓ Certificate for successful completion of research ethics organized by armauer Hansen research institute

Languages

	Oral Level	Written Level
Amharic (Ethiopian)	Advance(Fluent)	Advance(Fluent)
English	V.good	V.good

References

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