**DIRECTLY OBSERVED TREATMENT SHORT-COURSE COMPLIANCE AND ASSOCIATED FACTORS AMONG ADULT TUBERCLOSIS CASES IN PUBLIC HEALTH INSTITUTIONS OF HADIYA ZONE; SOUTHERN ETHIOPIA: CROSS-SECTIONAL STUDY**

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**Directly Observed Treatment Short-course compliance and associated factors among adult tuberculosis cases in public health institutions of Hadiya zone; southern Ethiopia: cross-sectional study**

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# Abstract

*Background:* *Tuberculosis (TB) is a major public health problem in Ethiopia. This is at various levels of prevention; connected to early detection, prompt treatment seeking and compliance behavior of patients. In addition, development of MDR-TB is another emerging agenda which mainly happens as a result of poor compliance to treatment regimen.*

*Objective:* *the main aim of this study is assessing treatment compliance and associated factors among adult patients of TB treatment service.*

*Methods:* *Facility based cross- sectional study triangulated with in-depth interview was conducted between March and April, 2015 in public health facilities of Hadiya zone. Data were collected from 203 respondents selected by simple random sampling using pre-tested structured questionnaire. Ethical clearance was collected from the ethical clearance committee of Jimma University, College of health science. We used adapted instrument composed of behavioral, therapy, social and facility related variables. Descriptive statistic and logistic regression analysis were employed to identify factors associated with DOTS compliance in TB patients. We used odds ratio and 95%CI to declare significant factor fits. Then quantitative data were triangulated with qualititative data. Finally, the findings were presented in narrative texts, tables and graphs.*

*Result: A total of 203 tuberculosis patients were interviewed; 51.7% were females and nearly three quarters (75.9) were rural dwellers.142(70%) of the respondents were compliant with in the last seven days. Majority (84%) of the respondents were morning time compliant. Average number of day that patient takes the drug in 1 week is 6.6 and most of them (72.50%) takes seven days. Phase of treatment, knowledge, getting encouragement, perceived severity, distance from health facilityand getting advice were significantly associated at pv<0.05 with DOTS compliance. Moreover distance and getting advice in intensive phase and absence of symptom, waiting time and getting encouragement in continuation phase were significantly associated.*

*Conclusions: Getting social support, increased knowledge on TB, getting advice from health professional and being in intensive phase of treatment increase DOTS compliance but perceived severity, long waiting time, being far to health facility during an intensive phase and absence of symptom in continuation phase decreases DOTS compliance. Special attention on compliance counseling should be given for those patients who have no symptom in continuation phase, distant patients in intensive phase and those who did not get social support.*

*Key words: Compliance, DOTS treatment, Hadiya zone*

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# List of abbreviation ad acronyms

AIDS- acquired immune deficiency syndrome

ART-antiretroviral therapy

CP- Continuation phase

DOTS   -directly observed treatment short-course

FMOH –federal ministry of health

HCP-health care provider

HF-health facility

HIV - human immune virus

IP- Intensive Phase

JU-Jimma University

MDR-TB– multi-drug resistant tuberculosis

MTB-mycobacterium tuberculosis

NTCP-national tuberculosis control program

PCP-pneumocystiscarn pneumonia

TB-tuberculosis

SSA -sub-Saharan Africa

SNNPR -southern nation nationalities and peoples region

WHO-world health organization

XDR-TB- extensively drug resistant tuberculosis

# CHAPTER ONE:  INTRODUCTION

## 1.1 Back ground

Tuberculosis is a chronic infectious disease which is caused by an acid-fast bacillus, belongs to the *Mycobacterium tuberculosis* complex. Occasionally the disease can also be caused by *Mycobacterium bovis and Mycobacterium africanum*. Tuberculosis transmission begins with a human source, most often a person with cavitary, pulmonary TB through coughing and sneezing (1). Tuberculosis is still a major cause of death worldwide, especially in sub-Saharan Africa. There were an estimated 9 million new TB cases, from which 7.4 million occurs in south-east Asia and sub-Saharan Africa. Tuberculosis is a major public health problem, with an estimated global incidence rate of 137 cases per 100,000 populations (2).

The latest estimate indicates that there were globally 1.6 million TB deaths and the African region has approximately one quarter of the world's cases, and the highest rates of deaths relative to population. There has been a disproportionate burden of HIV and TB infection, disease and death. Even though only 11% of the world's population lives in Africa, 27% of cases and 31% of deaths related by TB occurred in this region (3). The Ethiopian Federal Ministry of Health (FMOH) hospital statistics data has shown that tuberculosis is the leading cause of morbidity, the second cause of death and the third cause of hospital admission (after deliveries and malaria). Ethiopia ranks 7th in the world and 3rd in Africa in the year 2014(4). The incidence of TB of all forms and smear positive TB stand at 341 and 152 per 100,000 populations, respectively. The prevalence and mortality of tuberculosis of all forms is estimated to be 546 and 73 per 100,000 populations respectively (2).

Even though it takes more than a century after the discovery of the infectious agent and five decades after introducing effective chemotherapy, tuberculosis remains a majorcause of death in the world. One-third of the world's population is infected with *M. tuberculosis*, and the socio-economic outcomes of the disease are huge (5). Now a days co-infection HIV/AIDS and newlyemerging drug-resistant TB, especially multidrug resistant TB (MDR-TB) poses a great challenge of reducing human misery from this deadly disease and makes it major issue of WHO agenda. In poor areas with many MDR-TB cases, extra cost of second-line drugs is a huge burden to the already underfinanced national TB programmes and seeks the public health attention to focus (6).

WHO introduced the current TB control program directly observed treatment, short course as the tool to control TB and to prevent further development of resistance against anti-TB drugs (MDR TB - rifampacin in particular). Directly observed treatment, short course (DOTS) is observing each patient taking their daily dose of medication in front of health provider, HEW or treatment supporter. Itis still the internationally recommended strategy for TB/MDR-TB control and it has two phases (intensive phase takes two/three months and continuation phase takes four/five months) (7). This strategy has been adopted by more than 180 countries and is considered as the most appropriate and cost-effective approach for TB control (8).The WHO target for global TB control was to detect at least 70% of the estimated smear-positive TB cases and to achieve a treatment success rate of 85% by the year 2015. Only very few high TB burden countries have achieved both targets (9). In Ethiopia it seems that the targets are missed, TB detection rate is 36.8% which is below the national target (59%) set for the year and TB treatment success rate shows a downward fluctuation (from 84.0% to 82.5%) during the same period (10).

To accomplish these, timely treatment initiation and patients compliance is a key factor in treatment success, TB control and further emerging of MDR-TB. So, studying in this urgent public health issue requests the attention in order to address TB patient's treatment compliance behavior and factors that are associated with their compliance.

## 1.2 Statement of the problem

Tuberculosis remains a major cause of morbidity and mortality in many developing countries and a significant public health problem worldwide. TB is a treatable and curable disease, yet it continues to kill an estimate of 1.1 million people among HIV-negative cases of TB and 0.35 million people among incident TB cases that were HIV-positive globally (11).

Thus in total, approximately 1.45 million people died of TB this equates to a best estimate of 15 deaths per 100,000 population. Tuberculosis hinders socioeconomic development: 75% of people with TB are within the economically productive age group of 15-54 years. Ninety-five percent (95%) of all cases and 99 % of deaths occur in developing countries, with the greatest burden in sub-Saharan Africa and South East Asia (12).

According to the WHO global TB report 2011, there were an estimated 220,000 (261 per 100,000) incident and 330,000 (394 per 100,000) prevalence of TB cases with an estimated 29,000 deaths (35 per 100,000) occurs in Ethiopia due to TB (3). Household costs of TB are substantial; estimates suggest that tuberculosis costs the average patient three or four months of lost earnings, which can represent up to 30 percent of annual household income (13). Even though there are a lot of problems associated by tuberculosis; compliance is top urgent that plays the major role in the prevention and control program of TB and which is affected by many different factors (14).

Compliance to anti tuberculosis treatment and risk factors in Sub Saharan African countries shows that the proportion of patients non-compliant for treatment is unacceptably varied and high (15). Non-compliance with TB treatment poses a significant public health threat, as it is associated with increases in transmission rates, morbidity, and costs to TB control programs (16). Moreover, it leads to persistence and resurgence of TB and is regarded as the chief cause of relapse and drug resistance. While drug-resistant TB is generally treatable, it requires extensive use of chemotherapy that is toxic to patients and prohibitively expensive (17). Worldwide there were a total of 650,000 MDR-TB cases and 170,000 deaths due to MDR-TB.As WHO report the number of MDR-TB cases is rising in Africa with occurrence of 424,000 MDR-TB cases (13). Not only this there is also emerging of very severe form of TB strain; extensively drug resistant tuberculosis (XDR-TB) in African region even more ominous threat of TB. In the one or the other non-compliance for DOTS predisposes for this high public health burden (18).

Finding from KwaZula-Natal South Africa, revealed its severity of XDR-TB as 52 of 53 people who contracted the disease died within a months and it has estimated mortality rate of high (98%). In addition to this its treatment is extremely complicated and impossible in resource limited settings (19). When we come to our country's finding from the study in Addis Ababa reveal that the major factor to develop MDR-TB is non- compliance to DOTS program (20). Ethiopia is 15th among the 27 MDR-TB high-burden countries, with an estimated 5,200 cases occurring each year (17).

There were areas of attempt to overcome with this public health issue. First, drug is free-in charge and DOTs program which is set by WHO; remains one of the most widely-implemented and longest-running global health interventions. If the patient has good compliance with DOTS treatment program, success rate exceeds 95%, there would be a chance to counsel patients, even treat adverse drug reactions before treatment interruption, decreases tuberculosis recurrence and prevents the emergence of further multi-drug resistant strains of tuberculosis (11).

Second, stop TB program based on MDG 6, Target 8 -is to have halt and begun to reverse incidence by 2015 to cascade MDG (21). Third,community participation in TB and TB/HIV control program: participatingasTB Treatment Supporter.  TB Treatment Supporter can be a health extension worker, a family member, a community leader, a religious leader or facility health worker (1).

 But still there is a gap of TB patients in complying with this attempts and public health problem is on going up in our country due to its consequence. There for, this study will lay emphasis on the factors that affect patient compliance with ant TB treatment to alleviate the above problems in the study area.

# CHAPTER TWO: LITRATURE REVIW

National guideline of TB treatment recommends that all patients in a defined group receive the same treatment regimenonce daily dose, which is appropriate for their weight in consistent time(1).Non-compliance to treatment is a problem in Tuberculosis (TB) management as with other long term illnesses. TB treatment presents particular challenges for compliance because the treatment is long and involves taking a number of medications, side-effects are common and the patient usually feels better long before treatment has been completed. Not only this, tuberculosis treatment compliance is associated by a number of factors (22). So it is hoped that the information gained from the previous studies on the associated factors will provide a frame work for an analysis that follows.

## 2.1 Socio demographic and economic factors

A study conducted in eastern Europe Moldova 14.7% of patients are non-compliant with risk factors for default included socio-demographic factors (i.e. less formal educated and spending substantial time outside Moldova in the year prior to diagnosis) (23).Study shows in Malaysia, the cost and difficulty of travel to and from treatment centers may play a role in discontinuing treatment. Patients forced to miss work due to treatment may become non-compliant from fear of losing employment. Those seen as the economic mainstay of the family may also be less compliant with the demands of treatment (24).

A study done in Nigeria 19% of patients were non-compliant, their treatment gave long distance from TB treatment sites and lack of knowledge of the duration for the treatment as the major reasons for their actions (25). Finding in Morocco indicates that 30.2% non-compliers and it is significantly higher among men and persons living in urban areas (26).

The study conducted in Gambia shows that, poor socio-economic condition and stigma were reported and worst in female patient (27).Qualitative study in northwest Ethiopia, Debat shows that the main reason for non-compliance was patients' limited access to finance. Patients need money for transportation to health facilities, registration at health facilities, for further diagnosis and expensive referrals to the nearby hospitals and to meet other basicneeds (16). A study done in sub Saharan Africa indicates the relation of non-compliance by the DOTS program includes

daily traveling of long distance, money for transport or logistic in referring and transferring patient(28). Qualitative study done in Addis Ababa indicates the majority of patient's non-compliance related with financial constraints: 35 year-old female patient*: "I had to come every day to take drug. I tell you the truth; there was a time when I had to sell my jewelry: my rings, my necklace, everything for transportation, for food. I had to run here without even eating breakfast."* (29).

## 2.2 Behavioral factors

### 2.2.1. Knowledge of TB

The study conducted in USA revealed that long treatment period was poorly understood by patients and adherence appeared to be facilitated where patients understood the importance of completing treatment (30). Finding from the China indicates, there were 16% non-adherence to TB treatment often results from inadequate knowledge of the treatment regimen and importance of compliance (31). The study done in three strata of India indicates that 16 % non-adherence patients exhibited poor knowledge disease on compared to the completed group and the difference between the two groups was significant (32).

A study conducted in South Africa indicates, respondents mainly considered TB to be an African disease and were under the misconception that all TB patients will also develop HIV. This perceived link can be explained by the fact that TB is main cause of death among the estimated 5.5 million South Africans living with HIV/AIDS (33).The finding from Madagascar-Antananarivo showing that knowledge of TB was a significant factor for non-compliance (34).

A study done in Morocco indicates, the majority of participants reported cold (31.2%) as the main cause for their disease, and answers varied widely, ranging from tobacco to dust. Only a little over 25% were able to attribute TB is caused by microbe (35). Study in Kenya indicates that patient usually feels better and stops taking medicine initially after start of treatment because the medicine rapidly reduce the number of tubercle bacilli (bacillary load) in the body; this leads to non-compliance of TB patients which is highly associated by their knowledge (36).

### 2.2.2. Individual perception on anti-TB treatment

A study result in Pakistan suggests that there is high level of stigmatization; 57% of respondents believe people with TB tend to hide their TB status because they are afraid of what others may say. People think that irresponsible individuals who do not take their treatment are mainly to blame for spreading TB. Besides blaming those individuals, they accuse them of hiding their TB status for fear of what others might say (37). Study conducted in Malaysia revealed that TB is often perceived as a dangerous, infectious and incurable disease leading to stigmatization and social isolation of TB patients and it makes them to non-compliant. (24). Study in Russia showed that most of the patients were ashamed of their disease and concerned about leakage of information. This shows that stigmatization of TB leads to a situation where many patients are not treated well by members of the community. The stigma associated with TB has been shown to have a significant effect on non-compliance (38).

Finding from Thailand indicates in 11% non-compliance mostly believes there is association of TB and HIV, and feared this would predispose them to stigma. Respondents with low level of education beliefs that TB increases the chances of getting HIV infection it is associated with higher TB stigma (39).

Study in Bangladesh indicates that there are stigmatizing attitudes and behaviors of the community members towards the TB and its sufferers may lead individuals with TB to non compliant. Although the National TB Program recommends that patients be treated under direct observation, some patients prefer to take their drugs at home without supervision. One reason that they do this is to conceal the disease from others due to fear of being discriminated against and isolated (40). Qualitative study conducted in Kenya revealed that if tuberculosis symptoms persisted or returned after the initial treatment attempt or if the respondents perceived the illness as being serious, the patient was motivated to visit a health facility in an attempt to receive proper diagnosis (41).

### 2.3 Social influence on ant TB treatment

Cultural practices are one of the important factors with great influence on female compliance to TB treatment in many developing countries. Studies from Africa, Bangladesh and Syria showed that most married women must seek permission from their husband to attend health care services including TB treatment. This might cause potential barrier to the TB treatment (40, 42).

Study in china indicated that family members played an important role in the treatment supervision. As a core member of the family, the spouse would also observe patients taking medications, encourage and remind them to keep the follow-up medical appointments, so as to complete the TB treatment successfully (31).Studies in Vietnam have reported that women bear the highest burden of stigmatizing behaviors. In this study, female TB patients and women who are suspected to have active TB are likely tobe forced to get divorced, send back to their parents' homes, and have fewer chances ofgetting married (43).

Qualitative study from northwest Ethiopia Dabat, suggested thathow family support can influence DOTStreatment compliance:  27-years-malepatient: *"Recently, I am going to complete my treatment because of my family members' strong support….They encouraged and reminds me to take the drug."*  The other 39- year-old female patient*:"I stopped taking my drug because of squabbles in my family ... Hostility among family members can discourage one from taking drugs."* (16).

The study conducted in Addis-Ababa indicates family support was found to be crucial for patients' treatment. Some patients had been seriously ill when treatment was initiated and needed someone to accompany them for treatment. In addition, families provided food and transportation money since some patients had no income and others had to stop working for some time. *"My family members supported me a lot. They encouraged me. It is because of them that I am alive today………..*female patient"(29).

## 2.4 Facility related factors

Study done in Philadelphia shows that facility related factors that affect patient's treatment compliance behavior. Problems manifested by the patient specifically at health facilities included long waiting times, lack of privacy, inconvenient appointment times and drug unavailability are major factors (44). Study done in South Africa indicates patients  response as, clinic hours were inconvenient, that the health care provider (HCP) had a negative attitude towards them, did not treat them with respect, that they did not trust the HCP and that they missed treatment because of poor HCW attitude. They also report that they had not received enough education about tuberculosis and ant TB drug at the beginning of treatment, that they were not told why treatment would take 6 or more months and lacked counsel (45).

Study done in Egypt indicates that 24% of TB cases were non-compliance being far away from the health institution (46). Study done Nigeria indicates 19% were no-compliance with the major reasons of transport fare (40%) and feeling well (25%) (25).Other study done in Burkina Faso reported that patients experienced difficulty in accessing treatment at health care facilities because of inconvenient opening hours, long waiting time and provider absenteeism. Poor TB medication availability at health care facilities was highlighted by patients (47).

Qualitative study in northwest Ethiopia, Debat indicates the first two months of treatment were physically exhaustive due to long distance from treatment institution. Most patients from rural kebeles reported travelling one to ten hours in a single trip. A 20-year-old male:*"..... in addition to sever side effects of the drug, I am suffering by travelling daily long distance to reach the TB treatment center. I become so tired and make me to interrupt sometimes the ant TB drug"*(16).

Study in Sidama zone South Ethiopia indicates that there is 26% non-compliance to TB treatment. It was highly associated by absence of drug and the health facility is far away from home (48).

### 2.5 Therapy related factors

Study done on patients of intensive phase in Kolkata showed that absence of proper counseling, lack of correct knowledge about TB and the urge to leave treatment once patient started feeling better were the significant determinants of noncompliance (49). Qualitative study in Bolvia shows that when a patient comes to feels healthy they interrupt anti-TB drug as thinking that it makes them sick if they took drug after absence of symptom (50). Study done in Zambia indicates that feeling well was the major reason for patient becoming non-compliance (51).There is another finding in Nigeria shows that absence of symptom especially patients in continuation phase of treatment is high risk factor for non-compliance(25). Another study in northwest Ethiopia indicates that being in continuation phase of chemotherapy is high risk factor for non-compliance (52). Study done in Sidama revealed that a patient on intensive phase complies with their TB treatment than continuation phase. This might be on intensive phase patients take their medication daily in the health institution and patient might have good compliance during intensive phase, probably the illness is severe and fear of illness consequence make them not to miss pill (48).

## 2.6 Conceptual frame work

**Nature of therapy**
•Phase of treatment
•Absence of symptom

**Socio-demographic**
•sex
•marital status
•education
•residence
•income

**TB TREATMENT COMPLIANCE**

**Facility related factors**
•Distance from health facility
•waiting time
•Health care provider approach
•Availability of TB drug

**Behavioral and social factors**
•comprehensive knowledge
•individual perception
•social support

Figure 1*: Conceptual frame work that shows factors affect DOTS treatment compliance developed after reviewing different scientific literatures.*

## 2.7 Significance of the Study

Studying compliance and its determinants in TB cases helps to identify factors which affect the uptake of recommended therapeutic and promotive behavior.

The finding of this study will identify determinants potentially related to risky behaviors towards treatment non-compliance among TB patients with specific behavioral causes in the study area. It may also bring facts to different stakeholders to improve their potential and actual available resource in affordable and acceptable approach in line with the accepted standards. It will also contribute to increase in the knowledge and awareness of the problem areas by concerned bodies including the health institution staff in the area.

Furthermore the study could possibly generate information in the areas of the topic for researchers to investigate further empirical evidences to control non-compliance in the study area. In addition, the paper may be useful to other researchers as reference material while conducting extra studies on similar problems.

# CHAPTER THREE: OBJECTIVES OF THE STUDY

## 3.1. General Objective

To assess compliance of DOTS and associated factors among adult tuberculosis patients in Hadiya Zone.

## 3.2. Specific objectives

- ✓ To determine level of treatment compliance of TB patients
- ✓ To assess factors associated with DOTS treatment compliance

# CHAPTER FOUR: METHODS AND MATERIALS

## 4.1 Study area and period

This study was conducted in public health facilities of Hadiya zone between March to April, 2015. Hadiya zone is found in South Nation Nationalities and Peoples Regional State. It is located in south west of Ethiopia and northern part of the region, bordering in northeast with Silte Zone, the Gurage Zone in the north, the Yem Special Woreda in the west and Kambata Tambaro, Alaba, Wolaita zones and Oromia region in the south and southwest & Omo river in the west. It is 230 km far away from Addis Ababa, and 194 km from regional city Hawassa.
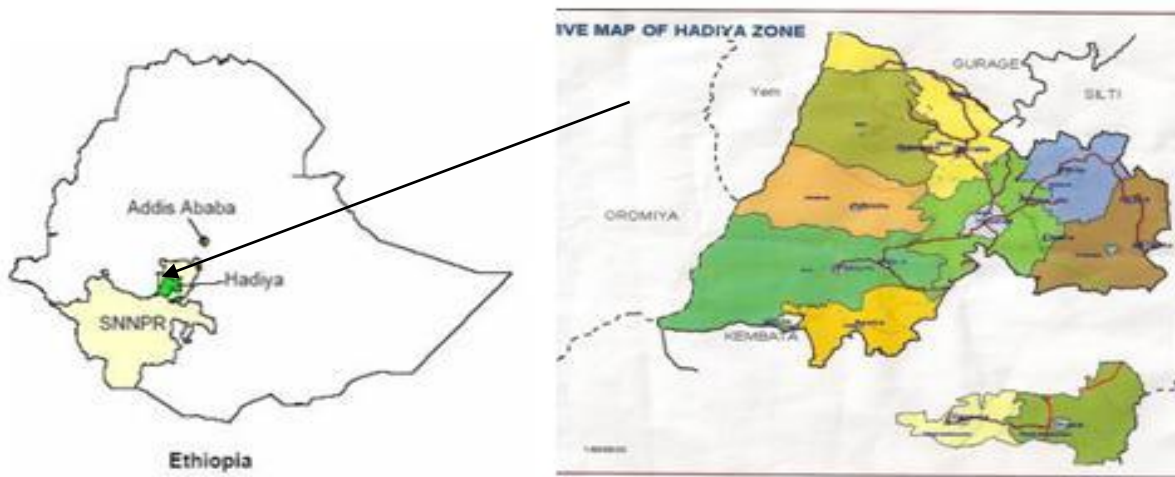


Figure 2*: Map of Hadiya zone*

Based on health profile of Hadiya zone health department, a total population of 1,547,846 with 49.47% of male and 50.53% of female in the year 2013/14. As to health infrastructures one Hospital, sixty one functional health centers which delivers routine health services to the community including DOTS program. DOTS were initiated in Hadiya zone in 1996 Hossanna hospital and one health centre, with potential population coverage of 25%. Health facilities providing DOTS increased to 31% in 1997, and 100% in 2011 making the population coverage by DOTS (53, 54).

## 4.2. Study design

A facility based cross sectional study design was employed with both quantitative and qualitative data collection methods.

### 4.3. Population

#### 4.3.1 Source population

All adult TB patients who were registered and on treatment at health facilities of Hadiya zone.

#### 4.3.2 Study population

Sample of adult TB patients who were on DOTS treatment and can respond and communicate was included in the study.

### 4.4. Inclusion and Exclusion criterion

#### 4.4.1 Inclusion criteria
TB patients who were following their anti-TB treatment for at least three weeks and whose age is 15 years and above were included for study (48).

#### 4.4.2 Exclusion criteria
Severely ill TB patients, who were not able to respondfrom attendants of TB treatment clinic during data collection period.

### 4.5 Sample size determination and sampling technique

#### 4.5.1 Sample size determination
Sample size **(n)** required for the study was calculated using single population proportion formula

$$n = \frac{(Z\frac{\alpha}{2})^2 P(1-p)}{d^2}$$

Hence,

**n**- is the minimum sample size required

**Zα/2**– critical value for normal distribution at 95% confidenceinterval =1.96 (Z value at alpha=0.05)

P= 74% proportion of compliance level according to previous similar study from Sidama south Ethiopia (48).

**d=**5% margin of error

$$n = \frac{(Z\frac{\alpha}{2})^2 P(1-p)}{d^2} \quad = \quad \frac{(1.96)^2 (0.74)(0.26)}{(0.05)^2}$$

n = 296

Since number of TB cases i.e. source population (N) is 525(<10,000) correction formula was used as follows:

$$nf = \frac{n}{1 + n/N} \qquad\qquad nf = \frac{296}{1 + 296/525}$$

$nf = 190$

Adding 10% non-response rate, total sample size of 190+ 19 cases that come for TB treatment was selected.

Total sample comes to be 209 TB cases.

### 4.5.2 Sampling procedure

#### A. Quantitative part

The study was conducted on health facilities of six randomly selected districts out of 11 districts that currently implementing DOTS program in Hadiya zone. Prior to the start of data collection the records of the health institutions was checked for appointment schedule. Then, the total number of patients eligible for study was identified. Finally total sample for each districts as well as for their respective facilities in selected districts was proportionally allocated to the size of adult TB patients on DOTS.

#### Qualitative part

Key informant in-depth interview was conducted on HEW and treatment supporters.

### 4.5.3 Sampling technique

#### A. *Quantitative part*

Six districts were selected by simple random sampling technique using lottery method. Sample was proportionally allocated to selected districts. There are 32 health institutions in six districts (District 1(7 HF), District 2(7HF), District 3(6HF), District 4(4HF), District 5(4HF) and District 6(4HF)) and all institutions from selected districts were included in the study. Then sample was also proportionally allocated for all institutions in the districts. Finally patients were included in the study by using computer generated simple random sampling technique by using list of the patient on registration book as sampling frame.
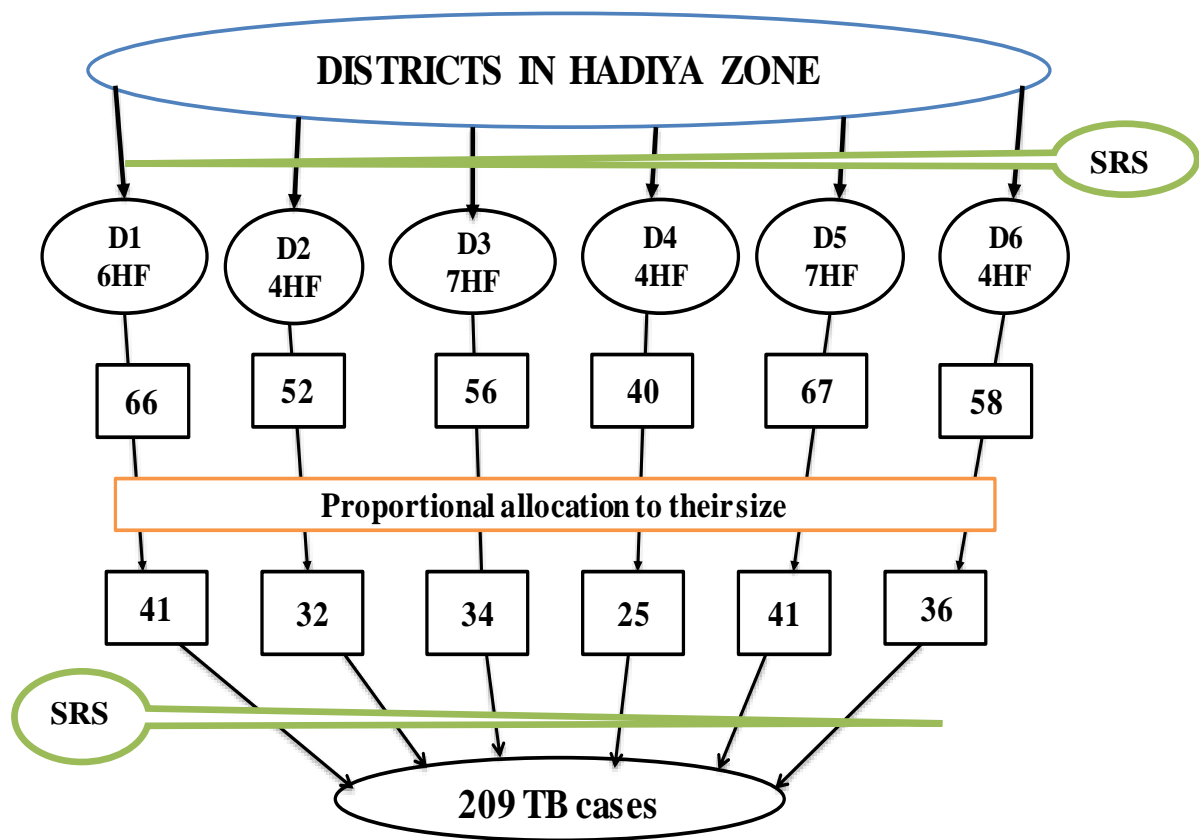


**Figure 3***: Schematic presentation of sampling procedure*

**B.** *Qualitative part*

An in-depth interview was conducted in a total of 12 key informants i.e. 6 HEW and 6 treatment supporters. They are selected by criterion purposive sampling technique (mostly those HEW take training on TB and treatment supporters other than health professional).

## 4.6. Variables

### 4.6.1 Dependent variables: –DOT treatment compliance

### 4.6.2. Independent variables

- ✓ socio-demographic characteristics (sex, age, education, residence, income and marital status)
- ✓ behavioral factors (knowledge and perception)
- ✓ social influence (getting encouragement)
- ✓ facility related factors (distance, advice, waiting time, availability of TB drug and health provider approach)
- ✓ therapy related factors (phase of treatment and absence of symptom)

## 4.7 Instruments and measurements

*Quantitative part*

Pretested and semi structured questionnaire was adapted from different relevant literatures and modified to the local context for quantitative study. The questionnaire was prepared in English and then translated into Amharic and Hadiyyisa by those who are native to Amharic and Hadiyyisa language then back to English by other individual to insure consistency, but finally it was administered in Hadiyyisa and Amharic languages. The questionnaire has five sections that is designed to obtain information on; socio demographic characteristics of respondents, behavioral factors, social influences, nature of therapy and facility related factors and DOTs treatment compliance status. Behavioral part includes comprehensive knowledge about TB and individual perception. Knowledge part consisted of 22 item (Yes /No) questions that focused mainly on the cause, transmission, treatment, prevention of tuberculosis and awareness on MDR/TB. The questions that measure perception consisted of five points Likert scale items, with 1 and 5 indicating the lowest and highest level of agreement, respectively. The response categories for Likert scale items have four or more categories to maximize variation. Each of the

responses was scored: strongly disagree=1, disagree=2, undecided/not sure=3, agree=4, strongly agree=5. After reversed for negatively worded items to positively worded items, score was summed for each respective factor. Variables of knowledge and perceptions (perceived severity, barrier and benefit) were treated as continuous variable.

To assess DOTS compliance level: The recent compliance during the last 7 day before the survey was assessed by patient's report. This is based on the number of pills which is consistent with treatment regimen weight (<39kg=2 pills, 39-55kg=3 pills and>55kg=4 pills) (following TB treatment standadrd guidline). The classifications of the patient as compliance when the number of pills reported by the patient was consistent with the treatment regimen weight for all seven days and non-compliance when the number of pills reported by the patient was not consistent with the treatment regimen weight even for one day in a week (1, 49).

Social influence consists of 9 items and focuseson thetype and source of support. Facility related factors have 10 items to identify distance, waiting time, service providers' approach and their advice for clients on TB treatment. Nature of therapy includes phase of treatment and symptom during interview. These items were treated as categorical variables to see their association with DOTS compliance.

### *Qualitative part*

The in-depth interview guide was prepared to explore information from HEW and treatment supporters on the factors that affect treatment compliance of TB patients like social, cultural, financial, facility related factors and traditional beliefs.

## 4.8 Data collection procedure

Quantitative data was collected through face to face interview of adult TB patients using Hadiyyisa and Amharic version instruments. Twelve clinical nurses (2data collectors per district) who had experience in data collection were selected. Three B.sc nurses (1supervisor per two districts) for supervision was recruited and participated in the study. Data collectors and supervisors were trained for one day by the principal investigator on the study instrument, consent form, how to interview and data collection procedures. Qualitative data was collected by principal investigator through in-depth interview using interview guide.

## 4.9 Data quality control

Questionnaire was prepared first in English by the co-investigator and then translated to Amharic and Hadiyyisa by other individuals who are native to Amharic and Hadiyyisa and had experience in translation. The data was collected by trained data collectors and pretest of the instrument was made before the actual data collection.

Pre-test on 5% of sample that means on 10 respondents was conducted in Shashogo district (Bonosha health center) which is out of six districts to make sure clarity of the questionnaire and then necessary modifications and correction was made to ensure survey questionnaire validity. The data collection on daily basis for completeness and consistency of the filled questionnaires were checked by principal investigator. In addition, the data was coded; entered using Epidata 3.1 to minimize entry errors and then it was exported to SPSS version 16.0 for analysis.

During analysis, data was cleaned carefully; missing values was checked through data exploration.

Qualitativedata was collected by principal investigator. Trustworthiness was checked by avoiding premature closure and prolonged engagement.

## 4.10 Operational Definitions

**DOTS -** Directly Observed Treatment, Short-coursethat recommendsall TB patients should have at least the first two months of their therapy observed by provider and four month observed by provider, HEW or treatment supporter (1, 55).

**DOTS treatment compliance:** the extent to which appropriateness of number of pills the patient takes with respective treatment regimen weight which is prescribed by the clinician (1, 56).

**Compliance** - when the patient's number of tablet he/she takes and his/her treatment regimen weight is consistent in all seven days.

**Non-compliance** – when the patient's number of tablet and his/her treatment regimen weight is inconsistent even for one day in a week.

**Comprehensive knowledge of TB:** patients' knowledge of TB, its cause, risk factors, mode of transmission, treatment and preventive approach as well as  awareness of MDR-TB.

**Perceived severity of TB:** degree of significance, an individual believes the factors that influence his/her DOTS treatment compliance behavior and resulted consequences like development of MDR/TB as measured by 5-point Likert scale.

**Perceived benefits of TB treatment compliance:** Individual's evaluation of potential benefits of complying with the strategy of taking medicines regularly for TB as measured by 5-point Likert scale.

**Perceived barriers for TB treatment compliance:** Individuals evaluation of potential barriers to comply with the TB drugs regularly, which can be physical, psychological or financial as measured by 5-point Likert scale.

**Intensive phase**: the first phase of DOTS program that extends to two months for new TB patients and three months for TB patient on retreatment.

**Continuation phase:** the second phase of DOTS program that extends to four months for new TB patients and five months for TB patient on retreatment.

**Absence of symptom:** the patients report as he /she has no TB symptom while on ant-TB drug.

**Distance**: patients traveling to reach health facility to collect anti-TB drug when>30minutes as long distance and ≤30minutes as no long distance (52).

**Waiting time:** patient waiting in health institution to get service on TB treatment when>30 minutes as long waiting time and ≤30 minute as no long waiting time (52).

**Health provider approach**: health providers' patient approach as friendly or unfriendly based on patients self response.

**Availability of TB drug:** presence of anti-TB drug in the facility always and not always based on patients self response.

**Getting advice:** when the patient reports as he/she gets adequate advice on tuberclosis and its treatment from the health provider.

**Getting social support:** when the patient reports as he/she gates encouragements like reminding of drug taking time, clinic schedule, food and financially while he/she is on treatment.

## 4.11 Data processing and analysis

### *Quantitative data*

Data was entered into EPI-DATA version 3.1and exported to SPSS 16.0 statistical software to edit, clean for inconsistencies and missing values and finally to analyze. Different frequency tables, graphs and descriptive summaries were used to describe the study variables. Analysis of logistic regression was done to determine the predictors of DOTS compliance in TB patient. Binary logistic regression analysis was used to see significance of association between dependent and independent variables.

In binary logistic regression analysisthose variables having a p-value ≤ 0.25 was considered as a candidate for multivariable analysis.Then entered in to Multivariable Logistic regression to get final model. Adjusted odds ratio with 95% confidence interval that not include 1 and p-value at <0.05 was computed to assess the statistical significance and strength of association between the dependent and predictor variables. Variables having p-value less than 0.05 in logistic regression was considered significance association with dependent variables. Model fitness was checked by Hosmer and Lemeshow test and it was>0.05 (0.161).Based on the findings the results were presented in text, figures and tables.

### *Qualitative data*

The qualitative data was transcribed in the notes taken from in-depth interview by their own views in Hadiyysa and translated into English. Finally it was used to triangulate quantitative data.

## 4.12 Ethical consideration

Ethical clearance was obtained from ethical review committee of Jimma University, College of Health Science. A formal letter, from college of Health Sciences of Jimma University, was submitted to Hadiya zone Health Department, Hossana town health office, Lemo woreda health office, Misha woreda health office, Gibe woreda health office, Soro woreda health office, Gombora woreda health office and all concerned bodies to obtain their co-operation.

Then permission and support letter was written to each respective health facilities. The purpose of the study was explained to the study participants to confirm whether they were willing to

participate. The study subjects was informed that participation on voluntary basis. Confidentiality and anonymity of responses was also ensured throughout the research process.

### 4.13 Dissemination plan

The findings of this study will be disseminated to JU, Hadiya zone Health Department, Hossana town health office, Lemo woreda health office, Misha woreda health office, Soro woreda health office, Gibe woreda health office, Gombora woreda health office and other organizations working on related area. The findings may also be presented in different seminars, meetings and workshops. Finally all effort will be made to publish the thesis in a reputable journal.

# CHAPTER FIVE: RESULT

The data were collected from a total of 203 TB cases that were on anti- TB in Hadiya zone public health institutions making a response rate 97%.

## 5.1 Socio-demographic characteristics

Slightly more than half, of the respondents were females. The mean age of the patients was 33.04($\pm$11.174 SD) and ranges between 15-75 years. Regarding marital status 120(59.1%) were married and 68(33.5%) were single. Majority 146(71.9%) were protestant religion followers. Hadiya was a dominant ethnic group, accounting for 174(85.7%). 63(31%) of respondents attended grade 1-8 followed by 45(22.2%) secondary school attendants. Concerning employment status of respondents 27.1% were house wife followed by 22.7% were farmers. Most of the respondents (75.9%) live in rural areas and 33.0% of the respondents get monthly income <500EB. Majority 58.1% of the respondents were in the weight range of 39-55kg treatment regimen. (table 1).

Table 1: Distribution of respondents by their basic socio demographic characteristics, Hadiya Zone health facilities, June, 2015.

| Sociodemographic characteristics | Cathegory | Frequency | Percent |
|---|---|---|---|
| Age group (n=203) | 15-24 | 51 | 25.1 |
| | 24-65 | 151 | 74.4 |
| | >65 | 1 | 0.5 |
| Sex(n=203) | Male | 98 | 48.3 |
| | Female | 105 | 51.7 |
| Marital Status (n=203) | Single | 68 | 33.5 |
| | Married | 120 | 59.1 |
| | Divorced | 8 | 3.9 |
| | Widowed | 7 | 3.4 |
| Educational status (n=203) | Illiterate | 56 | 27.6 |
| | Read and write | 25 | 12.3 |
| | 1-8 | 63 | 31.0 |
| | 9-12 | 45 | 22.2 |
| | Diploma and above | 14 | 6.9 |
| Occupation (n=203) | Gov't employer | 16 | 7.9 |
| | Merchant | 42 | 20.7 |
| | Farmer | 46 | 22.7 |
| | House wife | 55 | 27.1 |
| | Student | 34 | 16.7 |
| | Others* | 10 | 4.9 |
| Religion (n=203) | Protestant | 146 | 71.9 |
| | Orthodox | 28 | 13.8 |
| | Catholic | 7 | 3.4 |
| | Muslim | 12 | 5.9 |
| | Others* | 10 | 4.9 |
| Ethnicity (n=203) | Hadiya | 174 | 5.7 |
| | Kambata | 15 | 7.4 |
| | Gurage | 11 | 5.4 |
| | Silte | 2 | 1.0 |
| | Others* | 1 | 0.50 |
| Residence (n=203) | Urban | 49 | 24.1 |
| | Rural | 154 | 75.9 |
| Average monthly Income (n=142) | Low | 67 | 33.0 |
| | Medium | 49 | 22.7 |
| | High | 47 | 24.1 |
| Weight(n=203) | <39 | 13 | 23.2 |
| | 39-55 | 118 | 58.1 |
| | >55 | 72 | 35.5 |

(*=Daily laborer, Amhara, Adventist, Jahove witnes) (Income is classified as teritial)

## 5.2 Level of DOTS compliance

Out of 203 respondents 142(70%) were exhibiting compliance for DOTS irrespective of the phase they were (see pie chart below).

**DOTS compliance level**
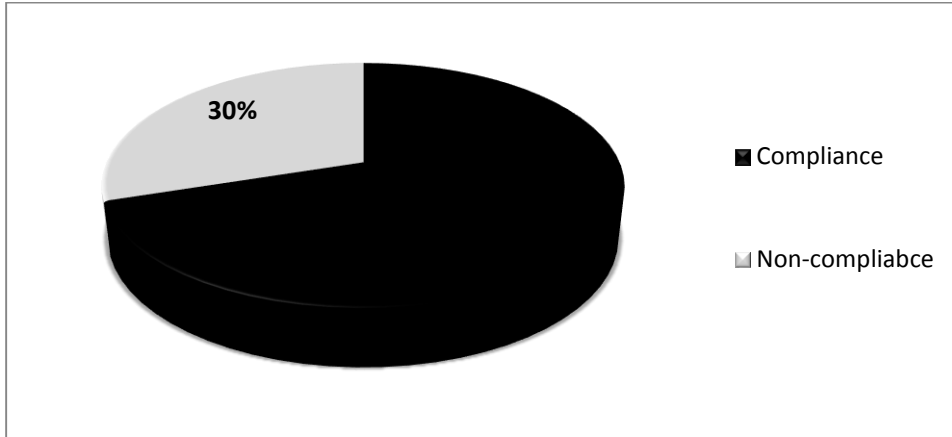


Figure 4*: DOTS compliance level of TB patient in Hadiya zone health facilities, June, 2015.*

In fact, this compliance rate showed variation between intensive and continuation treatment phase (PV<0.05).
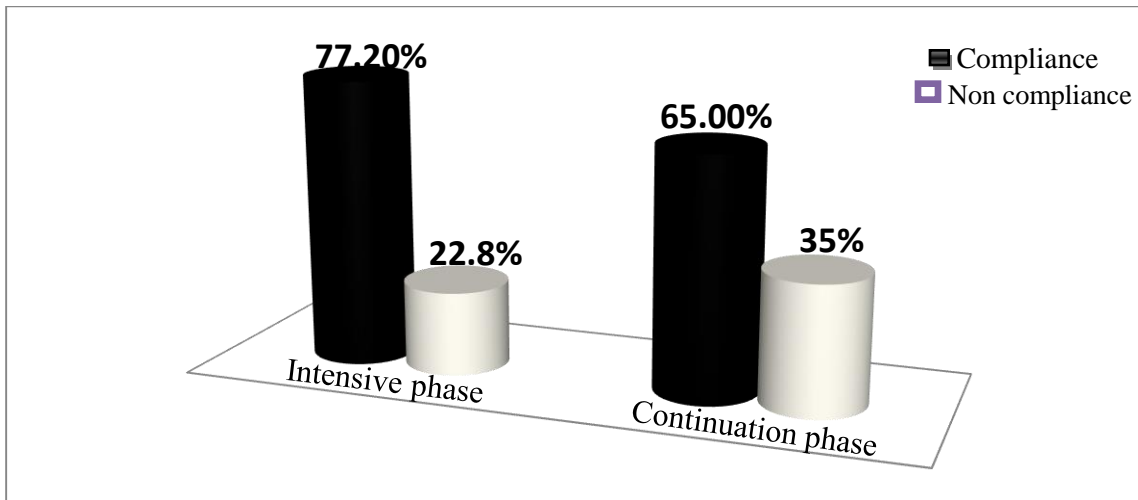


Figure 5*: DOTS compliance level by phase of treatment in TB patients Hadiya zone health facilities, June, 2015*

### A. 24 hour and seven-day compliance

This seven day compliance was checked by 24 hour compliance with their respective weight. That means all the patients who comply in the last seven days were comply for DOTS in the 24 hour.

When we see reason for non-compliance 29(47.5%) reported that facility is far from home, 19(31.5%) is due to absence of symptom, fear of side effect 14.7% and not being at home 6.5.

## B. Compliance level by drug taking time

Majority (84%) of the respondents were morning time compliant followed by 10.4% evening.
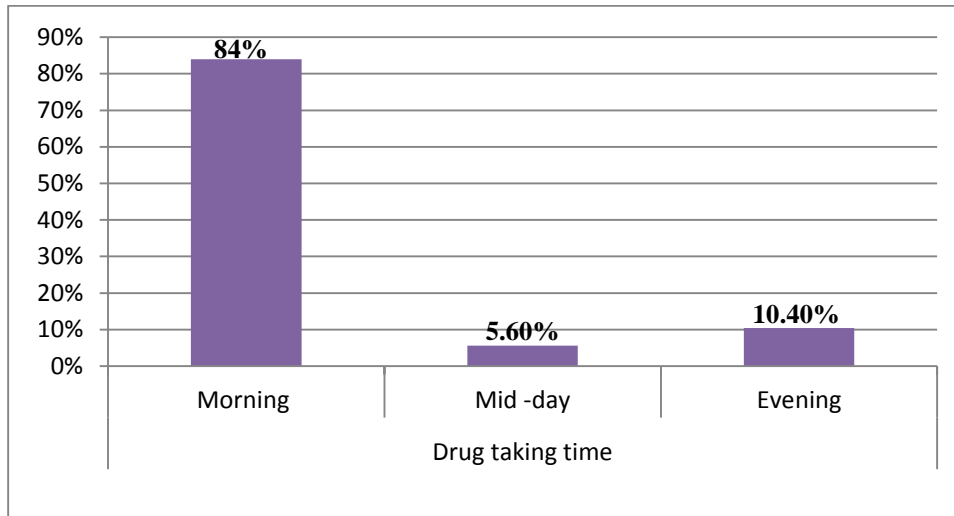


Figure 6*: DOTS compliance level by time of drug taking, TB patients of Hadiya zone health facilities, June, 2015.*

## C. Number of days that the TB-patient takes the drug

Average number of day that patient takes the drug in 1 week is 6.6 and majority of the patient (72.50%) takes seven days.
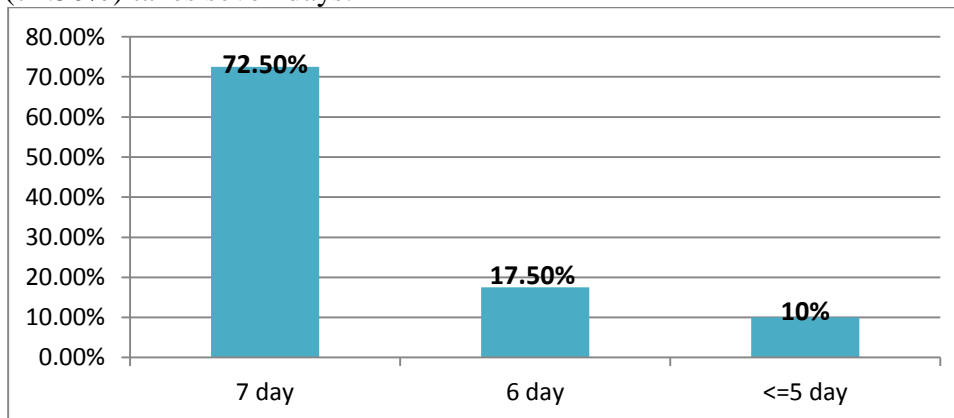


Figure 7*: Number of days in a week that patient takes TB drug in Hadiya zone health facilities June, 2015.*

### 5.3 Psycho-social/Behavioral variables

**1. Comprehensive Knowledge**

Since distribution of the knowledge was not normal it was log transformed and comes to be normally distributed. The mean score of knowledge was 2.21 with SD $\pm$0.28. Regard to the cause of the TB only 29.8% responds microbe as a cause of tuberculosis and the rest 70.2% responds other things (cold=35%, wind=20.8%, hard working =9.8% and bad smell=4.6%). Above the half 109(53.7%) of the patients report as coughing and sneezing of the patient transmit TB where as 26% responds eating together followed by 11% working together transmit TB disease. Regard to the prevention of TB 35% responds as covering mouth and nose during coughing and sneezing, 26% opening door, window of the house, vehicle and hall followed by 24% not exposing to cold.

**2. Perceptions related to TB and its treatment**

The mean perceived severity of TB was 48% with SD $\pm$ 3.87, the mean perceived barrier for TB treatment was 48% with SD $\pm$ 2.52 and the mean perceived benefit of TB treatment was 54% with SD $\pm$ 3.94.

**3. Social factors**

From 203 respondents, 145(71.4%) were received encouragement to be on anti-TB drug and majority 63% gets support by food, reminding to take TB drug daily and consistently.Those comes from far away gets support financially for transportation.
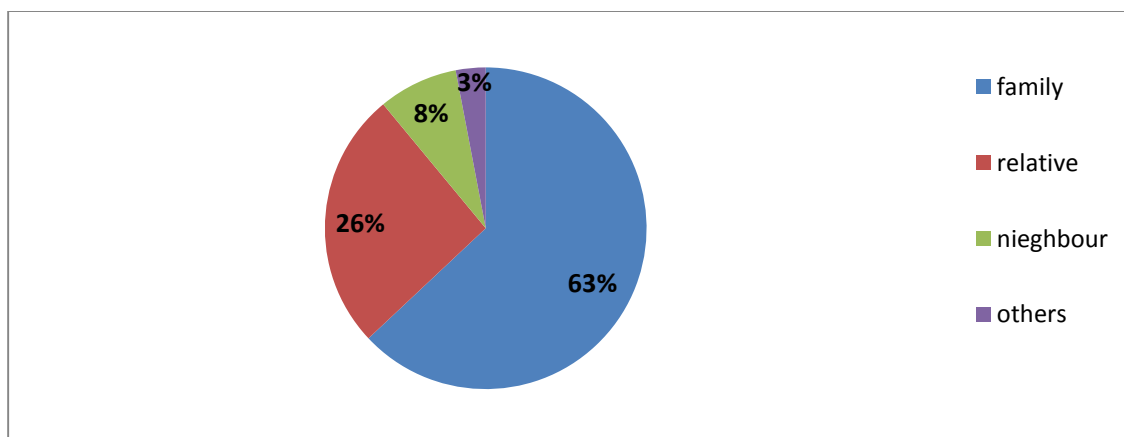


Figure 8*: The source of support that the TB patient most likely gets in Hadiya zone health facilities, June, 2015.*

Different individuals and groups (hunsbands, family members, neighbors and peers) provide varying ranges of support for TB patients regarding compliance to treatment. These supports include talking about side-effects of TB drugs at family and peer levels, preparing food for TB patients, lending traditional transportation services like horses.For instance an in-depth interview ……*"Once the patient starts TB drug he/she needs supporting by food ... reminding to take TB drug daily and appointment schedule is the responsibility of family member and neighbors. Supporting financially e.g for transportation if the facility is far away from patient's home.Not only this disease itself causes weakness, so even there is a need of traditional transportation like horse."(*Treatment supporter).

There are also structures in the community that plays major role in the success of DOTS compliance.In-depth interview explored from HEW indicates the role of community leaders, one to five net work, health developmental army and treatment supporters as they are discussing about the prevention and control of tuberclosis disease, its treatment and consequence of treatment interruption especially currently emerging seaver form of TB strain(MDR-TB). They are also participating on encouragementby supporting financially and facilitating other community members to help TB patients. *……."most of the times community leaders, one to five net work, health developmental army and treatment supporters were discussing about the prevention and control as well as following the patients who are on anti-TB drug to complete the drug consistently. Otherwise there is development of seaver forms of TB like MDR-TB and transmission to family member and other other people"*(HEW).

### 5.4 Nature of Therapy and Facility related variables

From a total of 203 respondents (165) 81.2% were on new treatment regimen and 61.1% were on continuation phase of treatment. 79.3% travel less than 30 minute before reaching health facility and 82.3% waits less than 30 minutes before getting service. An overwhelming majority 84.7% comes to health facility on foot and 84.7% responds that TB drug is available always in the facility. Regard to patient-service provider approach, 94.1% responds that health care providers have good approach and 75.9% gets advice from health professional on ant TB drug. Majority 143(94.7%) gets advice on daily and timely taking of anti TB drug.

Table 2: Distribution of respondents by therapy and facility related variables of TB patients Hadiya zone health facilities, June, 2015.

| Variables | Frequency | Percent |
|---|---|---|
| Treatment regimen | | |
| New | 138 | 68 |
| Retreatment | 65 | 32 |
| Treatment phase | | |
| Intensive | 79 | 38.9 |
| Continuation | 124 | 61.1 |
| Time to reach health facility | | |
| 1)$\leq$30 minute | 161 | 79.3 |
| 2) >30 minute | 42 | 20.7 |
| Waiting time in the health facility | | |
| 1) $\leq$30minute | 172 | 82.2 |
| 2) >30minute | 36 | 17.7 |
| Transportation | | |
| 1) On foot | 172 | 84.7 |
| 2) Public transportation | 31 | 15.3 |
| TB drug available | | |
| 1) Always available | 172 | 84.7 |
| 2) Not always available | 31 | 15.3 |
| Heath care provider approach | | |
| 1) Friendly | 191 | 94.1 |
| 2) Not friendly | 12 | 5.9 |
| Get advice from health professional | | |
| 1) Yes | 154 | 75.9 |
| 2) No | 49 | 24.1 |

## 5.5 Factors affecting DOTS compliance in TB patients

DOTS treatment compliance was assessed for its association with predicting variables.In the bivariate analysis, marital status, knowledge, phase of treatment, getting social support, distance from health facility, approach of health provider, waiting time, perceived severity and getting advice from health provider were associated ($pv<0.25$). But after adjusting possible confounding variables in multivariate logistic regression: phase of treatment, knowledge, getting social support, perceived severity, distance from health facilityand getting advice from health professional were remained significantly and independently associated by DOTS compliance($pv<0.05$) (table 4). Those patients inintensive phase were three (AOR=3.25[1.13, 7.90]) times more likely comply than patients in continuation phase.Those respondents who getsocial support 6.5 (AOR=6.59[2.65, 16.41]) times more likely compliant than their counter parts. Those respondents who travel $\leq$30 minute before reaching to health facility 2.9 (AOR=2.99[1.06, 8.44]) times more likely comply as compared with those travel >30 minute. Actually in-depth interview finding revealed that traveling daily to health institution is very difficult for TB patients while on treatment. When the patient comes from very distant areas, they comes to be bored of travelling and as they are TB patient they might have body weakness that makes their daily travelling by foot very difficult and teddies.

A unit increase of patient's knowledge score would increase the level of compliance by an average of 1.3 (AOR=1.30[1.11, 1.51]). Similarly a unit increase of patient's perceived severity score would decrease the level of compliance by an average of23% (AOR=0.87[0.78, 0.97]).Those patients who gets advice from health professional on TB drug was 6 (AOR=6.20[2.46, 15.63]) times more likely complies as compared with not adviced. A similar pattern was also observed in in-depth interview from HEW that health providers' advice during the initiation of anti-TB drug plays major role towards DOTS compliance. This finding indicates that provision of adequate health education on drug side effect, absence of symptom while the patient on treatment and consequence of interrupting the drug like development of MDR-TB is mandarory.As an in-depth interview most of the patients did not getting adequate councelling on the above circumstances. HEW………*health professionals play the major role on the success of DOTS program. From the beginning of the treatment health care provider did not give enough health education about the behavior of the drug. If the patient is not get advice initially as well as during on treatment, drug side effect only makes the patient not to comply"*.

Table 3: Final model that predicting DOTS compliance in multivariable logistic regressionof TB patients in Hadiya zone health facilities, June, 2015.

| Variables | | Compliance level | | COR(95%CI) | AOR(95%CI) |
|---|---|---|---|---|---|
| | | Comply | Non-comp | | |
| | | No. (%) | No. (%) | | |
| Marital | married | 86(71.6) | 34(28.4) | 1.05[0.54,2.03] | 2.97[0.37,23.84] |
| stutas | divorced | 11(57.9) | 8(42.1) | 1.25[0.23,6.72] | 3.91[0.52,29.37] |
| | widowed | 7(43.7) | 9(56.3) | 0.16[0.03,0.93] | 18.47[0.57,43.99] |
| | single | 38(97.1) | 10(20.9) | 1 | 1 |
| Phase of | IP | 61(77.2) | 18(22.8) | 2.51[1.28,4.91] | **3.25[1.13,7.90]**\*\* |
| treatment | CP | 81(65) | 43(35) | 1 | 1 |
| Knowledge | | | | 1.29[1.15,1.44] | **1.30[1.11,1.51]**\*\* |
| Getting | Yes | 111(76.6) | 34(23.4) | 2.97[1.50,5.86] | **6.59[2.65,16.41]**\*\*\* |
| Encougt. | No | 31(53.4) | 27(46.6) | 1 | 1 |
| Distance | <30min. | 118(72) | 46(28) | 2.41[1.17,4.95] | **2.99[1.06,8.44]**\* |
| | ≥30min. | 24(61.5) | 15(38.5) | 1 | 1 |
| Waiting | <30min | 121(73.3) | 44(26.7) | 3.36[1.62,6.96] | 2.83[0.94, 8.44] |
| Time | ≥30min | 21(55.2) | 17(44.8) | 1 | 1 |
| Getting | Yes | 120(77.9) | 34(22.1) | 4.88[2.46,9.69] | **6.20[2.46,15.63]**\*\*\* |
| Advice | No | 22(44) | 28(56) | 1 | 1 |
| Approach | friendly | 124(87.3) | 48(78.7) | 3.55(1.08,11.67) | 0.80[0.16,3.86] |
| HP | not friend. | 18(12.7) | 13(21.3) | 1 | 1 |
| Perceived | | | | | |
| seaverity | | | | 0.93[0.86,1.01] | **0.87[0.78,0.97]**\* |

*pv=<0.05, **pv=<0.01, ***pv=<0.001

Hosmer and Lemeshow test to check model fitness it is >0.05 i.e=0.161.

## 5.6 Factors affecting DOTS compliance by phase (Intensive Vs Continuation)

Factors that affect DOTS treatment compliance was assessed for its association by phase of treatment separately (Intensive phase Vs Continuation phase). Binary logistic regression analysis was done for each phase separetly to select variables for multivariable logistic regression at p-value <0.25.

Distance, knowledge, waiting time and getting advice from health provider were associated with intensive phase compliance in bivariate analysis. After adjusting possible confounding variables in multivariable logistic regression, distance and getting advice from health provider were remained significantly and independently associated with intensive phase compliance at p-v<0.05(table-5).

Respondents who comes from near to health facility 6.69 (AOR=6.69[1.83, 24.41]) times more likely comply as compared to patients who far to health facility. TB patients who gets advice from health provider from the beginning of treatment was 2.43 (AOR=2.43[1.03, 5.73]) times more likely comply than their counterparts.

Waiting time, knowledge, absence of symptom and getting social support while on treatment were associated in bivariate analysis with compliance in continuation phase of treatment at p-v<0.25. After adjusting possible confounding variables in multivariable logistic regression absence of symptom while the patient is on treatment, waiting time and getting social support were remained significantly and independently associated at p-v<0.05(table-6).

Patients who getsocial support 4 (AOR=4.06[1.72, 9.54]) times more likely comply as compared to those did notget social support. Patients without symptom 65% (AOR=0.35[0.18, 0.66]) less likely comply as compared to symptomatic patients. In-depth interview from treatment supporter also supported this finding. There are patients who didn't swallow TB drug daily.Once symptom of the disease is absent they did not want to swallow appropriietly. Most of the patient's response for interruption as they are cured from the disease and further swallowing is burning by its side effects. For example treatment supporter*: " ….....there are some TB patients who don't swallow TB drug daily, once symptom of the disease is absent even they took it to their home. When we ask, they respond to as "I am healed and no symptom….. so daily swallowing is only burning by its side effects, no other benefit other than it."* Those patients who wait in health facility less than or equal to 30 minute before getting service were 2.53 (AOR=2.53(1.03, 6.18]) times more likely comply than their counterparts.

Table 4: Multivariable logistic regression that predict DOTS compliance in Intensive phase of treatment in TB patients Hadiya zone health facilities, June, 2015.

| Variables | | COR(95%CI) | AOR(95%CI) |
|---|---|---|---|
| Distance | ≤30min. | 7.32[2.16, 24.73] | **6.69[1.83, 24.41]**\*\* |
| | >30min. | 1 | 1 |
| Waiting | ≤30min. | 2.45(0.96, 6.24) | 1.10(0.38, 3.23) |
| Time | >30min. | 1 | 1 |
| Getting | Yes | 2.68[1.17,6.15] | **2.43[1.03, 5.73]**\* |
| advice | No | 1 | 1 |
| Knowledge | | 1.08[0.96,1.21] | 1.05[0.93, 1.17] |

\*pv<0.05, \*\*pv<0.01

Hosmer and Lemeshow test to check model fitness it is >0.05 i.e=0.161.

Table 5: Multivariable logistic regression that predict DOTS compliance in Continuation phase of treatment in TB patients Hadiya zone health facilities, June, 2015.

| Variables | | COR(95%CI) | AOR(95%CI) |
|---|---|---|---|
| Getting | <30min. | 4.79[2.11, 10.87] | **4.06[1.72, 9.54]**\*\* |
| Support | ≥30min. | 1 | 1 |
| Waiting | <30min. | 2.71(1.17, 6.31) | **2.53[1.03, 6.18]**\* |
| Time | ≥30min. | 1 | 1 |
| Absence of | Yes | 0.33[0.18, 0.61] | **0.35[0.18,0.66]**\*\* |
| symptom | No | 1 | 1 |
| Knowledge | | 1.17[1.04,1.31] | 1.12[0.99, 1.26] |

\*pv<0.05, \*\*pv<0.01

Hosmer and Lemeshow test to check model fitness it is >0.05 i.e=0.178.

## CHAPTER SIX: DICUSSION

Compliance to anti-TB treatment is a major determinant of treatment outcome. In developing countries where inequities in access to health care are high and health resources are scarce the magnitude and impact of non-compliance is assumed to be higher. It is undeniable that many patients experience difficulties in following treatment recommendations. Currently for the dangerous TB specious (MDR-TB) development this non-compliance takes majority part (57). Hence, this study assessed the level and determinant factors of compliance to anti-TB medications.

Though institution based study is assumed to be over-estimated, 70% of compliance in the last seven days before the survey was found in this study. The overall compliance in this study is consistent with the study done in Morocco (69.8%) (35).This finding is lower from the previous reports of the Uganda (75%), Jiangsu Province of China (87.8%) and Sidama (74%) (18, 31, 48) but it is higher than DOTS compliance level in India and Kolkata (59.5%) (32, 49).The variation might be the time gap in the year and participant difference between the countries.

Patients in intensive phase three times more likely compliance from those patients in continuation phase. This finding is consistent with study done in Zambia and northwest Ethiopiabeing in continuation phase of chemotherapy is high risk factor for non-compliance (51, 52). The reason might be disappearance of symptoms in continuation phase of treatment since absence of symptom is an indication of clinical improvement from disease. I addistion that high quality drugs used in the DOTS strategy it is common place for TB symptoms to disappear even within a few weeks of treatment. There is also consistent finding with this justification in Kenya that patient usually feels better initially after start of treatment and not interested of taking TB drug because the medicine rapidly reduce the number of tubercle bacilli and patient comes to be asymptomatic (36).

Finding in this study indicates that as one unit increase in knowledge, patients' being compliance is averagely increases by 1.3. That is similar with the finding from the Nigeria, China and India where lack of knowledge of duration of treatment was significantly associated with non-compliance (25, 31, 32).

Finding in this study indicates that perceived severity decreases DOTS compliance and this in line with the study conducted in Malaysia and Pakistan patients who perceive their illness to be more serious and dangerous comes to be non-compliant (24, 37). The reason might be if the patient beliefs as the disease is sever and incurable by the fear of stigma and social isolation they try to hide and comes to be non-compliant.

In this study patients who came from distant areas less comply as compared to their counterparts. This finding is similar with the study conducted in Egypt and Sidama where being far away from the health institution was the major factor for non-compliance (46, 48). TB treatment involves a lot of interaction between patients and health care workers especially in the areas of drug side effect, duration of the treatment period and consequences of interruption as well as not completing treatment period. In this study patients who get adequate counselingon TB medication complies six times more likely from those who did not counseled (at p-value<0.001). Similarly study conducted in South Africa and Kolkata shows that those who did not received enough education about tuberculosis and anti- TB drug at the beginning of treatment, that they were not told why treatment would take 6 or more months and those lacked counseling were non-compliant (45, 49). One possible explanation for this is inadequately counseled patients may mistake the feeling of improvement to cure, thus interrupt sometimes medication.

Approach of the health care workers towards the patient remains important factor that can keep the patients on treatment or make them break the treatment or abandon it. Unfriendly approach of health care workers might make patients feel threatened and unwelcomed leading to non-compliance. Unfortunately, there is no any association between health workers approach to the TB patient with DOTS compliance in this study. But study indicates patients' report in South Africa as health care worker (HCW) had a negative attitude towards them did not treat them with respect, they did not trust the HCW and they missed treatment because of poor HCW approach (45).

There is significant association of getting social support with DOTS compliance in this study. This finding is inline with study conducted in Addis-Ababa indicates family support was found to be crucial for patients' treatment success. Some patients had been seriously ill when treatment was initiated and needed someone to accompany them for treatment (29). Also there is similar finding in china shows that family members played an important role in the treatment

supervision (31). There is supporting finding in this study which is revealed qualitatively from treatment supporter that whenever the TB patient starts taking anti-TB drug there is a need of supporting by food, reminding to take TB drug daily is the responsibility of family member. Supporting financially e.g for transportation if the facility is far away from patient's home and using traditional way of transportation like horse for rural residents. In addition to that there is also social class in the community like one to five network, health developmental armies and community leaders who are being played major role in the DOTS compliance. There is concurrent finding with this explored idea innorthwest Ethiopia that shows social support can influence DOTStreatment compliance (16).

Getting adequate advice on TB treatment is significantly associated with DOTS compliance in intensive phase of treatment in this study. This finding is consistent with the study conducted in Kolkata where patients in intensive phase who lacks proper counseling were non-compliance (49). This implies that if the patient is not informed initially about the serious consequences of the interruption of TB drug like development of MDR-TB, he/she might comes to be non-compliant. In this study (intensive phase of the treatment) patients who were near to the health institution complies 6 times more likely as compared to those comes from faraway to health facility. The reason may be in this phase there is traveling long distance daily to swallow anti-TB drug to the facility and there is symptom of the disease like weakness. There is supporting idea which is revealed from treatment supporter that patients from distant area comes to be bored of travelling by foot and as they are TB patient they have no power of travelling daily especially for rural communities it is very difficult and teddies.

In this study especially in continuation phase patients those waits greater than 30 minute before getting service complies less likely than their counterparts. This finding is parallel with the studies of Philadelphia and Burkina Faso where patients those wait long time in health facilities for getting service were non-compliant (44, 47). The possible reason might be when the patient waits long time before getting service, they perceived as they are not respected beside health care providers. Their trust on the HCP comes to be diminished and they will be exposed for non-compliance. Patients without symptom at the time of data collection in this study comply less likely than those with symptom (continuation treatment phase). This finding is consistent with the study of Bolvia and Zambia where absence of symptom especially patients in continuation

phase of treatment is high risk factor for non-compliance (50, 51). It is known that patients after completing intensive phase they have no daily contact with health professional. So it needs serous supervision since they are taking drug into their home and swallowing is in question. In addition to that in this phase the patient became asymptomatic and may perceive as he/she is cured from the disease.Inadequately counseled patients in areas of absence of symptom may mistake the feeling of improvement to cure, thus starts to interrupt taking anti-TB medication. There is a qualitative finding that revealed from HEW once the patient is asymptomatic no longer they want to swallow daily the drug especially in continuation phase of the treatment by perceiving as they are cured and other than burning by its side effects, no other benefit.

**Limitation of the study**

- ✓ Since the study was institution based self report might overestimate the results related to compliance.
- ✓ Knowledge was analyzed after transforming to make it normal distribution.
- ✓ The study was not treatment phase based; i.e. the study didn't separate the intensive phase and continuation phase of the treatment.

# CHAPTER SEVEN: CONCLUSION AND RECOMMENDATION

## 7.1 Conclusion

In general compliance is a dynamic issue and barriers are also liable to change over time, which necessitates continuation of multi-disciplinary collaborative studies and interventions. Hence, in this study the level of DOTS compliance was relatively poor as compared to other studies and it is affected by many different factors. Phase of treatment, getting social support, distance, knowledge about TB, getting advice from health professional and perceived severity were the factors that affect DOTS compliance. There are social capitals in the community that ranges from encouraging patients to visit health facility, to tolerate side effects, fetching drugs and presenting traditional transportation systems which the TB control program shall foster. In fact, TB control programs shall consider patients on different phases of treatment as different segments as a result of differences on classes of factors affecting their compliance. Accordingly, distance and provision of adequate advice initial phase and social support, waiting time and absence of symptom in later phase of treatment were factors that affect compliance on DOTS treatment.

## 7.2 Recommendation

Basedon the findings the following recommendations are forwarded.

Health care providers' shouldoffer adequate health education on the absence of symptom before completing the TB drug and counseling in the areas of consequence of interruption like development of MDR-TB at initiation of treatment. In order to strengthen TB control programs HEW should give due attention to community mobilization like family members, one to five network and health developmental armies towards patient encouragement on DOTS compliance.Health system should revisit the principle that patients on intensive phase have to visit health facilty on daily basis particularly for rural residents coming from a distant.

Further comparative research (Intensive phase Vs Continuation phase) should be done in order to identify factors for DOTS compliance in each phase specifically since the issue of adherence is dynamic. To overcome under/over estimation, golden research method on DOTS compliance with pills count should be done.

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## ANNEX I: INSTRUMENTS

**PART I: English Version Questionnaires**
**JIMMA UNIERSITY COLLEGE OF PUBLIC HEALTH AND MEDICAL SCIENCE, DEPARTMENT OF HEALTH EDUCATION AND BEHAVIORAL SCIENCE**

This questionnaire is prepared for collecting information on DOTS treatment compliance behavior among adult TB cases and determinant factors in Hossana town health facilities, Hadiya Zone.

Verbal Consent form before conducting the Interview

Questionnaire identification number /---------/---------/

Hello, how are you?

My name is _____. I am currently a student in Jimma University, Department of health Education and promotion, who is now going to conduct a survey. I would like to interview you a few questions that will be designed to obtain information on; socio demographic characteristics, compressive knowledge related to TB, individual perceptions, social influences, facility related factors and compliance status. Your name will not be written on this form and I assure you that all information that gives will be kept strictly confidential. Your participation is voluntary and you are not obliged to answer any question you do not wish to answer. If you are not still comfortable with the interview, please feel free to stop it any time you like. However, your honest answers to these questions will help us better understanding on this issue. Do I have your permission to continue?

      1-If yes, continue to the next page
      2-If no, skip to the other participant

Interview's name---------------------------------------------, signature--------------

Date of interview ---------------, Time started-----------, Time finished-------------

Supervisor's name----------------, Signature-------------------

I thank you for your cooperation

i. Result codes**:** 1. Completed     2. Respondent not available     3. Refused

               4. Partially completed      5. Others

**Section 1.  Socio-demographic characters**

| Sr.no. | Questions | Response | Remark |
|---|---|---|---|
| 101 | Age (in years) | ------------- | |
| 102 | Sex | 1-male          2-female | |
| 102 | Marital status | 1-single<br>2-married<br>3-divorced<br>4-widowed | |
| 103 | Occupation | 1-government employee<br>2-merchant<br>3-farmer<br>4-house wife<br>5-other (specify)………….. | |
| 104 | Educational status | 1-illitrate<br>2-read and write<br>3- (1-8)<br>4- (9-12)<br>6-more than secondary | |
| 105 | What is your religion | 1-protestant          3-catholic<br>2-orthodox          4- muslim<br>5-others | |
| 106 | What is your ethnicity? | 1-hadiya               3-gurage<br>2-kembata          4-silte<br>5-amhara<br>6-others (specify)_____ | |
| 107 | What is your monthly income? | Ethiopian Birr _____ | |
| 108 | What is your residence? | 1-urban          2-rural | |
| 109 | Patients weight(KG) | _____ | |

### Section 2. Comprehensive Knowledge related to TB

| Sr.no | Question | Response | | Remark |
|---|---|---|---|---|
| | | 1=Yes | 2=No | |
| 201 | Have you ever heard about TB? | | | |
| 202 | Do you know the cause of TB | | | |
| | If yes, what could be the cause? | | | |
| 203 | microbe | | | |
| | cold | | | |
| | evil sprite | | | |
| | hard work | | | |
| | bad smell | | | |
| | other, specify | | | |
| 204 | Do you know symptoms of TB? | | | |
| | If yes Q209, what symptoms do you know? | | | |
| 205 | Loss of appetite | | | |
| 206 | Night sweating | | | |
| 207 | Cough | | | |
| 208 | Fever | | | |
| 209 | Body weakness | | | |
| 2010 | Weight loss | | | |
| | Other, specify | | | |
| 2011 | Could TB transmit from person to person? | | | |
| | If yes forQ212, how it transmitted? | | | |
| 2012 | Through coughing of TB patient | | | |
| 2013 | Through sneezing of TB patient | | | |
| 2014 | By working together with TB patient | | | |
| | By cloth | | | |
| | Others, specify | | | |

| 2015 | Is TB preventable disease? | | | |
|------|---------------------------|---|---|---|
| | If yes forQ210, what ways of TB prevention do you know? | | | |
| | by avoidance of alcohol, cigarette etc | | | |
| 2016 | by opening of windows and doors of house, vehicles, halls etc | | | |
| 2017 | by controlled disposal of sputum excreta of known TB patient | | | |
| 2018 | by covering mouth and nose during sneezing and coughing | | | |
| | not exposing to cold | | | |
| 2019 | Is TB treatable? | | | |
| | If your answer for Q2031 yes, how could be treated? | | | |
| 2020 | using proper anti TB drugs | | | |
| | through praying and holly water | | | |
| | others, specify | | | |
| 2021 | Do you know MDR-TB | | | |
| | If yes for Q214, tell me the risk factor | | | |
| 2022 | improper TB medication taking | | | |
| | sever cold | | | |
| | HIV/AIDS | | | |
| | others | | | |

### Section 3.IndividualPerception

| Sr.no. | Question | SA | A | NU | DA | SDA |
|--------|----------|----|----|----|----|-----|
| | **Perceived severity** | | | | | |
| 301 | I think TB treatment interruption my cause treatment failure | | | | | |
| 302 | I think non-adhering with TB treatment has serious consequence | | | | | |
| 303 | Tuberculosis is more serious than any other disease | | | | | |
| 304 | If one person can't follow TB medication appropriately the disease can relapse | | | | | |
| 305 | I think interruption of ant TB drug may cause me to develop | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | drug resistant TB | | | | | |
| 306 | TB is incurable disease like HIV/AIDS | | | | | |
| 307 | TB is a dangerous disease that can kill the patient | | | | | |
| | **Perceived benefit** | | | | | |
| 308 | There is effective traditional medicine that can cure from TB | | | | | |
| 309 | I think adhering with TB dr hug cures from TB completely | | | | | |
| 310 | I think one can recover from TB without treatment | | | | | |
| 311 | Seeking immediate advice from health provider if I suspect ant TB medication side effect is important | | | | | |
| 312 | I think taking herbal medicine treat TB disease | | | | | |
| 313 | I think missing appointments of any form will induce noting up on me once symptoms are relieved during the course of therapy | | | | | |
| | **Perceived barriers for TB treatment compliance** | | | | | |
| 314 | I think anti TB drugs has severe side effects | | | | | |
| 315 | Travelling to health institutions to take TB drug daily is so much difficult and needs pay for transportation | | | | | |
| 316 | It is resource consuming to go to health facility for the treatment of TB | | | | | |
| 317 | I think it is boring to remember and take anti TB daily at the same time | | | | | |
| 318 | I am not interested by coming of health institution because I am afraid of other people in the facility may know that I have tuberculosis | | | | | |
| 319 | I think if somebody has TB disease everybody discriminates him | | | | | |

**Section 4. Social influences**

| Sr.no. | Question | Response | Remark |
|--------|----------|----------|--------|
| 401 | Who decide for your treatment when you sick? | 1)Spouse<br>2)My self<br>3) Relatives<br>3)Others, specify | |
| 402 | What others suggest you for TB treatment? | 1)It is better to check first traditional healers<br>2)Decide to follow  to take ant TB<br>3)Taking herbal medication<br>4)Preying/ go to holy water<br>5)Others, specify | |
| 403 | Did you get encouragement for your treatment? | 1=Yes<br>2=No | |
| 404 | If yes forQ503, from whom you get? | 1)Family member<br>2)Spouse<br>3)Relatives<br>4)Neighborhood<br>5)Church/religious leaders<br>6)Others, specify | |
| 405 | If yes for Q503, what they support?<br>(Multiple response possible) | 1)By reminding drug taking time<br>2)By reminding to keep the follow-up schedule<br>3)By encouraging to take the daily drug<br>4)Financial support<br>5)Diet support<br> 6)Others, specify | |
| 406 | Is there anyone who discourages your TB treatment? | 1)yes<br>2)no | |

| 407 | If yesforQ506, Who discourages? | 1)Family 2)Friends 3)People in work place 4)Neighbor 5)Others, specify | |
|------|---------------------------------|-------------------------------------------------------------------|---|
| 409 | Did you ever visited quacks while you are in chemotherapy? | 1)yes 2)no | |

*Quacks are "traditional healers"*

## Section 5. Nature of Therapy and Facility related factors

| Sr.no | Question | Answer | Remark |
|-------|----------|--------|--------|
| 501 | Cathagory | 1) New <br> 2) Retreatment | |
| 502 | Phase of treatment | 1) Intensive phase <br> 2) Continuation phase | |
| 503 | Symptom during interview | 1=Yes <br> 2=No | |
| 504 | How much time it takes to reach health facility? | 1) ≥30minutes <br> 2)<30 minutes | |
| 505 | For how much time are you waits before getting TB drug at health facilities? | 1)≥30minutes <br> 2)<30minutes | |
| 506 | How you travel to health facility to get TB drug? | 1)on foot <br> 2)public transport | |
| 507 | What do you say about availability of drug in this facility? | 1)always available <br> 2)not always available | |
| 508 | What do you say about approach of health worker? | 1)friendly <br> 2)unfriendly | |
| 509 | Did you get advice from health professional about TB? | 1=Yes <br> 2=No | |

| 510 | If yes forQ605, what he/she counsel? (Multiple response possible) | 1)on daily and timely taking of ant TB drug 2)on drug side effects 3)on nutrition 4)on follow up schedule 5)on prevention of transmission to other family members 6) others, specify | |
|------|------|------|------|

## Section 6. 24 hours recall for DOTS treatment compliance

| Sr.no | Question | Response | Remark |
|-------|----------|----------|--------|
| 601 | Did you take your TB drug in the past 24 hr in the morning time? | 1) Yes 2) No | |
| 601.1 | If yes forQ7.1, how many tablet did you took in the morning? | 1)1 tablet 2)2 tablet 3)3 tablet 4)N/A | |
| 602 | Did you take your TB drug in the past 24 hr in the lunch time? | 1)Yes 2)No | |
| 602.1 | If yes forQ7.2, how many tablet did you took in the lunch time? | 1)1 tablet 2)2 tablet 3)3 tablet 4)N/A | |
| 603 | Did you take your TB drug in the past 24 hr in the night time? | 1)Yes 2)No | |
| 603.1 | If yes forQ7.3, how many tablet did you took in the night? | 1)1 days 2)2 days 3)3 days 4)N/A | |

## Section 7. Seven days recall of DOTS treatment compliance

| Sr. no. | Question | Response | Remark |
|---|---|---|---|
| 701 | Have you ever taken your TB drug in morning time in the past 7 days? | 1)yes<br>2)no | |
| 701.1 | If yes forQ8.1, how many tablet per day? | 1)1 tablet     3)3 tablet<br>2)2 tablet     4)4 tablet | |
| 701.2 | If yes forQ1, how many days per week you took in the morning time? | 1)1 days     5)5 days<br>2)2 days     6) 6 days<br>3)3 days     7 day<br>4)4 days | |
| 702 | Have you ever taken your TB drug in lunch time in the past 7 days? | 1)yes<br>2)no | |
| 702.1 | If yes forQ1, how many tablet per day? | 1)1 tablet     3)3 tablet<br>2)2 tablet     4)4 tablet | |
| 702.2 | If yes forQ1, how many days per week you took in the lunch time? | 1)1 days   5) 5 days<br>2)2 days   6) 6 days<br>3)3 days   7) 7 days<br>4)4 days | |
| 703 | Have you ever taken your TB drug in night time in the past 7 days? | 1)yes<br>2)no | |
| 703.1 | If yes forQ1, how many tablet per day? | 1)1 tablet     3)3 tablet<br>2)2 tablet     4)4 tablet | |
| 703.2 | If yes forQ1, how many days per week you took in the night time? | 1)1 days     5) 5 days<br>2)2 days     6)6 days<br>3)3 days   7) 7 days<br>4)4 days | |

**Section 8. To assess reason of not taking the drug**

| Sr.no | Question | Response | Remark |
|---|---|---|---|
| 801 | What is the possible reason not to take TB drug in the previous week? | 1)I forget<br>2) absence of symptoms<br>3)I was not at home<br>4)fear of side effects<br>5) Facility is far apart<br>5) I was busy<br>6)Drug is not available in health facility<br>7) fear of stigma<br>8)others, specify | |

**DATA COLLECTION GUIDE FOR QUALITATIVE STUDY**

Informed consent (To be read for in-depth interview)

Hello, my name is _____and I am a member of Jimma university research team. I am here to collect information for the research conducted on non-compliance for TB treatment and its determinant factors among adult TB patients at health centers in Hadiya Zone. The purpose of this research is to bring important information for non-compliance behaviors and its prevention & control effort in the zone.

Participation is based on your willingness besides; you can withdraw from the study anytime. However, your kin participation would mean. In addition, no personal identification will be written and we assure you that whatever information you are providing will only be used for the research purpose and only the research team will handle the data.

Are you willing to participate in the study?

Agreed _____I will continue interview

Not agreed_____after thank u and I will search another voluntary

**To assess factors that affect treatment compliance behavior of TB patients**

1. What do you say about drug taking behavior of TB patients?
2. What factors can affect treatment compliance of TB patients?
3. Do you think that there is alternative treatment for TB patients other than ant TB drug?probe
4. What consequence will come due to non-compliance for ant TB drug? What do you say about MDR-TB?
5. Are there any cultural factors that affect treatment compliance of TB patients?probe
6. What traditional treatment do you know in your neighbor that TB patients use to cure from the desease? probe
7. What do you think about praying/holy water use for TB treatment?probe

**PART 2 AMHARIC VERSION**

የአማርኛመጠየቅያቅጽ

ጅማዩኒቨርሲቲየህብረተሰብእናየህክምናሳይንስትምህርትኮሌጅ፤የጤናትምህርትናስነባህሪትምህርትክፍልበቡብክልል፤በ ዲያዞንጤናተቀማትውስጥያሉየቲቢህመምተኞችከበቲቢህክምናአገልግሎትጋርያለዉንቁርኝትንናቁርኙቱንየምንዱምእንደሆነለ ማወቀተዘጋጀየመጠየቅያጽነው፡፡

የመጠየቅያመለያቁጥር-----------------
የጤናድርጅቱስም _____
ከመጠይቅበፊትየተዘጋጀየፍቃድጥያቄፎርም
መግቢያሰላምታ

ስሜ _____ ይባላል፡፡እኔየምሰራውበጅማዩኒቨርሲቲየድህረምረቃየናትፅሁፍአባል ውስጥነው፡፡በዚህየጤናርጅቱውስጥበሚሰጠውየቲቢህክምናገልሎትዙሪያከህክምናጋርያለዉትንቁርኝትንናቁርኙቱንየየምነ ዱነጎችምንእንደሆነማወቀተወስነትየቾችመጠየየፈልጌነበር፡፡ይህጥናትየቲቢህክምናንየታማሚዎችንፍላጎትመሰረትያደ ረገአገልሎትእዲሆንሚሰጠውመረጃከተኝው፡፡ስለዚህከቲቢመድሓነትጋርያለዉትንቁርኝትናበእርሶመድሓነትአወሳሰድ ዙሪያያሉትንኑኔታዎችለማወቀእርስትብበርአስተዋጽአከተኝው፡፡በመጠይቁላይየእርሶስምወይምማንንቶንየሚገልፅማንኛ ውምነገርአይጠቀስም፡፡እንዲሁምእርሶየሚሰጡኝመረጃችሚስጥራዊነትለመጠበቅየቾችዘንድመጠይቁእኔእናእርሶባንበት ቦታብቻይከናወናል፡፡መጠይቁሚከናወነውበእርሶፍቃደኝነትብቻየሚሆንሲሆንበመጠይቁወቅትመመለስየማይፈልጉትንማንኛ ውንምአይነትጥያቄይለፈኝማለትይችላል፡፡በተጨማሪፃምበማንኛውምሰዓትማቋረጥይችላል፡፡ሆኖምእርሶየሚሰጡትትክከለኝም ረጃዎችየቲቢህክምናአገልሎትመስተካከልእናመሻሻልሰሆነባቸውነገሮችለማወቅስለሚረዳንክፍተኝጥቅምአለው፡፡
በመጥይቁላይለመሳተፍቃደኛነትን?
መልሱአዎከሆነአስግነህ/ሽወደሚቀጥለው�

ዕ/ሌ/ፊ
አልፈልግምከሆነአስግነህ/ሽየሚቀጥለውንተጠይቄመጠበቅ

የተጠያቂውመለያቁጥርመጠይቁየተደረገበትቀን --------------------

የተጀመረበትሰዓት---------------- ያለቀበትሰዓት----------------------

የጠያቂዉስም--------------------------------------------------ፍርማ---------------

የሱፐርባይዘርስም----------------------------

ስለትብብረዎበጣምአመስግናለዉ.

የዉጤቱመለየቁቱር፡ 1.አልቆዋል       2.ተጠያቂዉአልተገኘም       3.እምቢብሎዋል

4.በከፍልአልቆዋል                5.ሌላ

**ክፍል 1.አጠቃላይመረጃ**

| ቁጥር | ጥያቄ | መልስ | ምርመራ |
|------|------|------|--------|
| 101 | ዕድሜ | ------------- | |
| 102 | ፆታ | 1.ወንድ    2.ሴት | |
| 102 | የጋብቻሁኔታ | 1-ያላገባ<br>2-ያገባ<br>3-የፈታ<br>4-ባል/ምስትየሞታ | |
| 103 | የስራሁኔታ | 1-የመንግስትሰራተኛ<br>2-ነጋዴ<br>3-ገበሬ<br>4-የቤትአመቤት<br>5-ልላይገለጽ………….. | |
| 104 | የትምህርትሁኔታ | 1-ያልተማረ<br>2-መጻፍናማንበብምችል<br>3- (1-8)<br>4- (9-12)<br>6-ከሁለተኛደረጃበላይ | |
| 105 | ሃይማኖት | 1. ፕሮቴስታንት<br>2. ኦርቶዶክስ<br>3. ሙስሊም<br>4. ካቶሊክ<br>5. ሌላ | |
| 106 | ብሔር | 1.ሀድያ          2. ከምባታ<br>3. አማራ          4. ጉራጌ<br>5. ሌላከሆናይጠቀሱ | |
| 107 | ወራዊገቢ  ------- | በእትዮጵያብር _____ | |
| 108 | የመኖሪያአድራሻ | 1. ከተማ              2. ገጠር | |
| 109 | ክብደቶትስንትነዉ? | _____ኪሎግራም | |

**ክፍል 2.አጠቃላይእዉቀትንበተመለከታ**

| ቁጥረ | ጥያቄ | መልስ | | ምርመራ |
|---|---|---|---|---|
| 201 | ስለቲቢሰምተዉየዉ.ቃሉ? | 1=አወን | 2=አይደለም | |
| 202 | ቲቢበሽታንየሚያስከትለዉንነገርያዉ.ቃሉ? | 1=አወን | 2=አይደለም | |
| | ጥያቄ 202 አወንከሆና፤ምንድነዉ.ብለዉያስባሉ? | | | |
| 203 | ጀርም (ማይክሮኦርጋኒዝም) | | | |
| | ንፋስ | | | |
| | ብርድ | | | |
| | መጥፈዉመንፋስ | | | |
| | መጥፎሽታ | | | |
| 204 | የቲቢበሽታምልክቶቼንያዉ.ቃሉ? | 1=አወን | 2=አየደለም | |
| | ጥያቄ 204 አወንከሆና፤ምልክቶቼንይንገሩን | | | |
| 204 | የምግብፍላጎትመቀነስ | | | |
| 205 | ማታማታማግላብ | | | |
| 206 | ሳል | | | |
| 207 | ትኩሳት | | | |
| 208 | ሰዉነትመዲከም | | | |
| 209 | ኪሎመቀነስ | | | |
| | ሌላካሌይጥቀሱ | | | |
| 207 | ቲቢከሰዉወደሰዉይተላለፋል? | 1=አወን | 2=አየደለም | |
| | ጥያቄ 207 አወንከሆና፤እንዴትይተላለፋል? | | | |
| 208 | የቲቢበሽተኘዉሲያስለዉ. | | | |
| 209 | የቲቢበሽተኘዉንሲያስነጥሰዉ. | | | |
| | ከቲቢበሽተኛጋርአብራዉበመብላት | | | |
| | ከቲቢበሽተኛጋርአብራዉበመስራት | | | |
| | በልብስ | | | |
| | ሌላካሌይጥቀሱ | | | |
| 210 | የቲቢበሽታንመከላከልይቻላን? | 1=አወን | 2=አየደለም | |
| | ጥያቄ 210 አወንከሆናእንዴትመከላከልይቻላል? | | | |
| | አልኮልባላማጠባት | | | |
| 215 | በርንናመስኮትንበመክፈት | | | |
| 216 | አከታንበአግባቡበመቅበር | | | |
| 217 | ስያስልናስስጥሶትአፍንናአፍንጫንበመሸፈን | | | |
| | ብርድላይአለመዉጣት | | | |
| 218 | ቲቢንማከምይቻላል | 1=አወን | 2=አየደለም | |
| | ጥያቄ 210 አወንከሆናእንዴትመከላከልይቻላል? | | | |
| 219 | በአግባቡየቲቢመዲሃነተበመዉሰድ | | | |
| | በመጸለይናበጸበልበመጠጣት | | | |
| | በባህላዊመድሃኒት | | | |

| | | | | |
|---|---|---|---|---|
| | አላዉቅም | | | |
| | ሌላካሌይጥቀሱ | | | |
| 220 | መድሓኒትየተላመዳቲቢያዉቃሉ? | 1=አወን | 2=አይደለም | |
| | ጥያቄ 210 አወንከሆናእንዴትይመጣል? | | | |
| 221 | በትከክለ፟ፀራቲቪመድሃኒትባለመዉሰድ | | | |
| | በከባድብርድ | | | |
| | በኤችኣይ፟ቪኤድስ | | | |
| | አላዉቅም | | | |
| | ሌላካሌይጥቀሱ | | | |

### ክፍል 3.የግልአስተሳሰብንለመለካት

| ቁጥር | ጥያቄ | በእ | እ | ምእ | አ | በአ |
|---|---|---|---|---|---|---|
| | **ከቲቪበሽታአስከፈገ፟ታ.ጋርበተያያዘ** | | | | | |
| 301 | የቲቪመዲሓኒትንኣያቆራጡመዉሰድህክምናዉእንዳይሳከያደርጋል | | | | | |
| 302 | ከቲቪመድሓኒት.ጋረተቆራኝተዉአለመዉሰድለከባድ፟ግርያ፟ጋልባል | | | | | |
| 303 | ከምንም፟ዓይነትበሽታየቲቪበሽታበጣም፟ከባድነዉ. | | | | | |
| 304 | አንድሰዉበትከክለየቲቪመድሓኒትካልወሰዳበሽታዉልያገ፟ሸበትይችላል | | | | | |
| 305 | የቲቪመድሓኒትመዉሰድንብ፟ቆርጥመድሓኒትየተላመዳቲቢልይዘኛይችላል | | | | | |
| 306 | ቲቪእንደኤድስየማይዲንበሽታነዉ. | | | | | |
| 307 | በህክምናወቅትላይእንዴየቲቪም፟ልከቶ፟ችከጠፉበቀጠሮባሄድም፟በጤ፟ንቴላይም ን፟ም፟ተፀ፟ዕኣ.የመጣም | | | | | |
| | **ከቲቪህክምናአዎ፟ኙነት.ጋርበተያያዘ** | | | | | |
| 308 | ቲቪንየሚያዲንባሀላዊማ፟ድሓኒትስላለዉፀረቲቪመድሓኒትመዉሰድአያስፈልግ ም | | | | | |
| 309 | አንድ፟ቲቪበተችኝከፀረቲቪመድሓኒት.ጋር፣ከእንቅስቃሴ፣ከም፟ግ፟ብናከቀጠሮግበደ ም፟ብከተጣበቃከቲቪ.ጋረያይዘዉየም፟መዉን፟ዳትይቀን፟ሳል | | | | | |
| 310 | አንድሰዉ.ያለህክምናከቲቪበሽታልዲንይችላል | | | | | |
| 311 | የፀረቲቪመድሓኒትየጎን፟ች፟ጉዳትከጠረጠሩወድያዉ.ህ.ኪ.ም፟ማ፟ማ፟ክርአስፈላጊነዉ. | | | | | |
| 312 | የባህልህክምናየቲቪበሽታን፟ሊያከም፟ይችላል | | | | | |
| 313 | በህክምናወቅትላይእንዴየቲቪም፟ልከቶ፟ችከጠፉበቀጠሮባሄድም፟በጤ፟ንቴላይም ን፟ም፟ተፀ፟ዕኣ.የመጣም | | | | | |
| | **ከቲቪህክምናመሰናክሎ፟ች.ጋርበተያያዘ** | | | | | |
| 314 | የፀረቲቪመድሓኒቶ፟ችከፍተኛየሆኑየጎን፟ች፟ጉዳትአለዉ. | | | | | |
| 315 | በየቀኑወደጤ፟ናተቆም፟ለቲቪመድሓኒትመመላለስበጣም፟ክባድናለ፟ም፟ሳፈሪየም፟ብርቅ ሚያስፈልግነዉ. | | | | | |
| 316 | ስራንአቋርጠዉለቲቪመድሓኒትብለዉ.ወደጤ፟ናተቆም፟ም፟ሄ፟ድን፟ብረ፟ትማ፟ክ፟ን፟ነዉ. | | | | | |
| 317 | የጤ፟ናተቆም፟ስመ፟ጣ፟ሰዉ.የቲቪበሽታእንዳለብ፟ሰ፟ለም፟ያዉ.ቁ፟ሀ.ሌ፟ጤ፟ናተቆም፟በመ፟ም | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| | ጣትደስተኛይደለሁም | | | | |
| 318 | በየቀኑበተመሳሳይስዓትአስተዋሎመድሓኒትመዉሰድአሰልቺነዉ. | | | | |
| 319 | አንድሰዉየቲቢበሽተካለበትሁሉምሰዉያገዋል | | | | |

በእ=በጣምእስማማለሁኝ፤እ =እስማማለሁኝ፤ምአ= ምንምአልልም፤አ =አልስማምም፤በአ = በጣምአልስማመም

## ክፍል 4.መህበራዊኖዉንበተመለከታ

| ቁጥር | ጥያቄ | መልስ | ምርመራ |
|---|---|---|---|
| 401 | ሲያምክስለህኪ.ምናምዎስነዉ.ማነዉ.? | 1) ባል/ሚስት<br>2) ራሴ<br>3) ዘመድ<br>3) ሌላካሌይጥቀሱ | |
| 402 | ሌላሰዎችስለቲቢበሽተሕከምናምንይላሉ? | 1)መጀመርያየባህልህኪምኖሞክርይላሉ<br>2)ዘመናዊየቲቪመድሃኒትለመዉሰድዎስንይላሉ<br>3)መጸለይ/ጠበልመጠጣት<br>4) ሌላካሌይትቀሱ | |
| 403 | ጸረቲቪመድኃኔትስትዋስድቴሽኮአሌ? | 1) አዎ        2)የለኝም | |
| 404 | አዎንከሆናጥያቄ403፤መንነዉ.? | 1) ቤተሰብ<br>2) ዘመድ<br>3) ጤናባለሙያ<br>4) ጤናኤክስቴንሽንሰራተኛ<br>5)ሌላካሌይጥቀሱ | |
| 405 | ከሕክምናላይሌሌዕዕርዳታታገኛለህ? | 1) አዎ        2)የለኝም | |
| | አዉንከሆናማነዉየምረዳክ? | 1) ቤተሰብ<br>2) ባል/ሚስት<br>3) ዘመድ<br>4) የሰፈርሰዉ<br>5) የሀይማኖትመርጮች/ቤ/ክ<br>6) ሌላካሌይትቀሱ | |
| 407 | ምንድነዉየምረዱት? | 1)መድሓኒትእንድዎስድያሳስቡኛል<br>2)ቀጠሮዉንያሳስቡኛል<br>3) በየቀኑመድሓኒቱንእንድዉጥያገፋፉኛል<br>4) በገንዘብይረዱኛል<br>5) በምግብይረዱኛል<br>6)ሌላካሌይጥቀሱ | |
| 408 | መድሓኒትእንዳትዎስድመሰናክልየምሆንሰዉአ<br>ሌ? | 1) አዉ<br>2) የለዉም | |

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| 409 | አ ያንከሆናጥ ያቄ 408 ፤ ማነ ዉ.? | 1) ቤተሰብ<br>2) ጎደኛ<br>3) በስራቦታ ያሉ ሰ ዉ ች<br>4) በ አከ ባቢ ያሉ ሰ ዉ ች<br>5) ሌላ ካ ሌ ይ ጥቀሱ | |
| 410 | መ ሐኒ ት አ የ ዎ ስ ዱ ወ ደ ባ ል ህክምና ሄ ደ ዉ የ ዉ ቃ ሉ? | 1) አ ዉ.<br>2) አ ል ሄ ድ ኩ ም | |

## ክፍል 5. ጤና ተ ቆ ም ንበተ መ ለ ከ ታ

| ቁጥር | ጥ ያ ቄ | መ ል ስ | ም ር መ ራ |
|------|--------|--------|----------|
| 501 | የበ ሽ ተ ኛ ዉ ዓ ይ ነ ት | 1) አ ድ ስ<br>2) ድ ጋ ሚ የ መ ጣ ዉ | |
| 502 | የ ህክ ም ና ወ ቅ ት | 1) የ መ ጀ መ ር ያ<br>2) ተ ከ ታ ታ ይ ወ ቅ ት | |
| 503 | የበ ሽ ታ ም ል ክ ት አ ለ ቦ ት | 1) አ ዎ ን<br>2) አ ይ ደ ለ ም | |
| 501 | ከ ቤ ቶ ት ወ ደ ጤ ና ተ ቆ ም ለ መ ድ ረ ስ ም ን ያ ህ ል ስ ዓ ት ቦ ፈ ጃ ል? | 1) ≥ 2 ሰዓት<br>2) < 2 ሰዓት | |
| 502 | የ ጤ ና ተ ቆ ም ከ ደ ረ ሱ በ ኋ ላ ህክ ም ና እ ስ ኪ ያ ገ ኙ ም ን ያ ህ ል ይ ቆ ያ ሉ? | 1) ≥ 30 ደቂ ቃ<br>2) < 30 ደቂ ቃ | |
| 503 | ወ ደ ጤ ና ተ ቆ ም በ ም ን ድ ነ ዉ የ ም ሄ ዱ ት? | 1) በ እ ግ ር<br>2) በ ህ ዝ ብ ማ መ ላ ላ ሻ | |
| 504 | በ ዝ ህ ተ ቆ ም ስ ለ ጸ ረ ቲ ቢ መ ድ ኃ ኒ ት አ ቅ ር ቦ ት ም ን ይ ላ ሉ? | 1) ሁ ሌ ም ይ ገ ኛ ል<br>2) ሁ ል ግ ዜ አ ይ ገ ኝ ም | |
| 505 | በ ዝ ህ ተ ቆ ም ስ ላ ሉ ባ ለ ሙ የ ዎ ች አ ራ ረ ብ ም ን ት ላ ሌ ክ? | 1) እ ን ደ ጎ ደ ኛ ና ቸ ዉ.<br>2) ብ ዙ ም አ ያ ቀ ረ ቡ ም | |
| 506 | በ ቂ ም ክ ር ስ ለ ቲ ቢ መ ድ ሐ ኒ ት አ ገ ኝ ተ ዋ ሉ? | 1) አ ዎ          2) አ ላ ገ ኘ ሁ ም | |
| 507 | አ ያ ንከ ሆ ና ቁ ጥ ር 506 ፤ ስ ለ ም ን ተ መ ከ ሩ? | 1) በ የ ቀ ኑ ና በ ጊ ዜ መ ድ ሐ ኒ ት ስ ለ መ ዉ ሰ ድ<br>2) በ ጎ ኒ ዮ ች ጉ ዳ ት ላ ይ<br>3) በ ም ግ ብ ዙ ር ያ ላ ይ<br>4) በ ቀ ጠ ሮ ላ ይ<br>5) ወ ደ ቤ ተ ሰ ብ እ ን ዳ ይ ተ ላ ለ ፍ በ መከ ላ ከ ል ላ ይ<br>6) ሌ ላ ካ ሌ ይ ጥ ቀ ሱ | |

## ክፍል 6. 24 ሰዓት መ ድ ሐ ኒ ት ቁ ር ኝ ት

| ቁጥር | ጥያቄ | | መልስ | ምርመራ |
|------|------|---|------|-------|
| 6.1 | ባለፈው ሰዓትውስጥጸረቲቢመድሓኒትበጥዋትግዜወስደዋሉ? | 24 | 1)አዉ<br>2)አይደለም | |
| 6.1.1 | ጥያቄ 7.1 አዎንከሆናስንትኪኒነወሰዱ? | | 1)1<br>2)2<br>3)3<br>4) )N/A | |
| 6.2 | ባለፈው ሰዓትውስጥጸረቲቢመድሓኒትበምሳዓትወስደዋሉ? | 24 | 1)አዉ<br>2)አይደለም | |
| 6.2.1 | ጥያቄ 7.2 አዎንከሆናስንትኪኒነወሰዱ? | | 1)1<br>2)2<br>3)3<br>4)N/A | |
| 6.3 | ባለፈው ሰዓትውስጥጸረቲቢመድሓኒትማታላይወስደዋሉ? | 24 | 1)አዉ<br>2)አይደለም | |
| 6.3.1 | ጥያቄ 7.3 አዎንከሆናስንትኪኒነወሰዱ? | | 1)1<br>2)2<br>3)3<br>4)N/A | |

**ክፍል 7.የሰባትቀንመድሓኒትቁርኝት**

| ቁጥር | ጥያቄ | መልስ | ምርመራ |
|------|------|------|-------|
| 7.1 | ባለፈውሰባትቀንውስጥጸረቲቢመድሓኒትጥዋትላይወስደዋሉ? | 1)አዉ<br>2)አይደለም | |
| 7.1.1 | ጥያቄ 8.1 አዎንከሆናስንትኪኒነወሰዱ? | 1)1<br>2)2<br>3)3 | |
| 7.1.2 | ጥያቄ 8.1 አዎንከሆና, ስንትቀንበጥዋትላይወሰዱ? | 1)1<br>2)2<br>3)3<br>4)4<br>5) ሌላካለይጥቀሱ | |
| 7.2 | ባለፈውሰባትቀንውስጥጸረቲቢመድሓኒትበምሳዓትወስደዋሉ? | 1)አዉ<br>2)አይደለም | |
| 7.2.1 | ጥያቄ 8.2 አዎንከሆናስንትኪኒነወሰዱ? | 1)1<br>2)2<br>3)3 | |
| 7.2.2 | ጥያቄ 8.2 አዎንከሆና, ስንትቀንበምሳዓትላይወሰዱ? | 1)1<br>2)2<br>3)3<br>4)4<br>5) ሌላካለይጥቀሱ | |

| 7.3 | ባለፈዉሰባትቀንዉስጥጸረቲቢመድሓኒትማታላይወስደዋሉ? | 1)አዉ<br>2)አይደለም | |
|------|------|------|------|
| 7.3.1 | ጥያቄ 8.2 አዎንከሆናስንትቂኒኔወሰዱ? | 1)1<br>2)2<br>3)3 | |
| 7.3.2 | ጥያቄ 8.2 አዎንከሆና, ስንትቀንማታላይወሰዱ? | 1)1<br>2)2<br>3)3<br>4)4<br>5) ሌላካለይጥቀሱ | |

### ክፍል 8 የጸራቲቢመድሓኒትያልዋጡበትምክንያት

| 8.4 | ባላፈዉሰባትቀንዉስጥየጸረቲቢመድሓኒትያልዋጡበትንምክ ኒያትልነገሩኝይችላሉ? | 1) ረስቼ<br>2) የበሽታምልክቶስለጠፉ<br>3) ቤትአልነበርኩም<br>4)ጤናተቆሙከቤቴባጣምሩቅስለሆነ<br>5)በሽታምልክቶችስለጠፉ<br>6) በጤናተቆምመድሓኒትአልቆ<br>7) በስራተውጥራ<br>8) መድሓኒቱንስወስድስለሚያማኝ<br>9) መገለልፈርቼ<br>10) ሌላካለይጥቀሱ | |

<br><br><br>

**IN-DEPTH INTERVIEW AMHARICE VERSION**
 **(ለቲቢህኪምናተያዥናለጤናኤክስቴሽንስራተኞች)**

ከመጠይቅበፊትየተዘጋጅየፍቃድጥያቄፎርም

መግቢያየሰላምታ

ስሜ _____ ይባላል፡፡እኔየምሰራውበጅማዩኒቨርሲቲየድህርምሬቃየናትፅሁፍአባል ውስጥነው፡፡በዚህጤናድርጅትውስጥበሚሰጠውየቲቪኪህምናገልግሎትዙሪያበiሸተኞችከህክምናጋርያቸውንቁርኝትንናቁር ኝትንየምንዱነገሮችምእንደሆሳለማወቀተዘጋጥያቀዎችንመጠቅፈልጌነበር፡፡ይህናnከቲቪመድሃኒትጋርበiሸተኞችእንዳይ ቆራኙየሚያደርጋቸውንነገሮåወቀዉለመከሳaልናየታማሚዎችንፍላጎትመሰረትያደረገ አገልግሎትእንሆንየሚሰጠውመሬጃከተገኝ ው፡፡ስለዚህበiሸተኞችከቲቪመድሃኒትጋርያ чач   ውንቁርኝቱንናበዳሃ ኒ ትወ ሳ ሳ ድ ዙ ሪ ያ ላ ቸ ዉ ን ሁ ኔ ታ ለ ማ ወ ቅ የ እ ር ስ ት ብ በ ር ኝ ስታጾአከ ተ ኝ ነ ዉ፡፡በመጠይቁላይየእርሶ ስ ም ወ ይ ም ማ ን ነ ቶ የ ሚ ገ ል ፅ ማ ን ኝ ው ም ነ ር አ ይ ጠ ቀ ስ ም፡፡እ ን ዲ ሁ ም እ ር ሶ የ ሚ ሰ ጡ ኝ ን መ ረ ጃ ዎ ች ሚ ስ ጥ ራ ዊ ነ ት ለ መ ጠ በ ቅ የ ሚ ቻ ለ ዉ ዝ ን ድ መ ጠ ይ ቁ እ ኔ ና በ እ ር ሶ ባ ን ስ ተ ቶ ታ ብ ቻ ይ ከ ና ወ ና ል፡፡መ ጠ ይ ቁ የ ሚ ከ ና ወ ነ ዉ በ እ ር ሶ ፈ ቃ ደ ኝ ነ ት ብ ቻ የ ሚ ሆ ን ሲ ሆ ን በ መ ጠ ይ ቁ ወ ቅ ት መ መ ለ ስ የ ማ ይ ፈ ል ጉ ት ን ማ ን ኝ ው ም አ ይ ነ ት ጥ ያ ቄ ይ ለ ፈ ኝ ማ ለ ት ይ ች ላ ል፡፡በ ተ ጫ ማ ሪ ም ማ ን ኝ ው ም ሰ ዓ ት ማ ቋ ረ ጥ ይ ች ላ ል፡፡ ሆ ኖ ም እ ር ሶ የ ሚ ሰ ጡ ት ት ክ ክ ለ ኛ መ ረ ጃ ዎ ች የ ቲ ቪ ህ ክ ም ና አ ገ ል ግ ሎ ት መ ስ ተ ካ ከ ል እ ና መ ሻ ሻ ል ስ ለ ሆ ነ ባ ቸ ዉ ነ ገ ሮ ች ለ ማ ወ ቅ ስ ለ ሚ ረ ዳ ን ክ ፍ ተ ኛ ጥ ቅ ም አ ለ ዉ፡፡

በመጠይቁላይለመሳተፍቃደኛነዎትን?

መልሱአዎከሆነአስግኝመጠቁንእቀጥላለሁ

አልፈልግምከሆነአስግኝየሚቀጥለዉንተጠየቂመለግናመጠየቅ


መጠይቁየተደረገበትቀን -------------------

የተጀመረበትሰዓት---------------        ያለቀበትሰዓት---------------------

የጠያቂዉስም-------------------------------------------ፍርማ---------------

ስለትብብረዎበጣምአመስግናለዉ


1. ቲቪበiሸተኞችስለጸረ-ቲቪመድሃኒትአወሳሰድባህርይምንይላሉ?

2. ጸረ-ቲቪመድሃኒትአወሳሰድባህርይንልጎዱየምችሉነገሮችምንድነዉ.ብለዉያስባሉ?

3. ከጸረ-ቲቪመድሃኒትሌላየቲቪበiሸታንሊያከምየምችልህክምናሌብለዉያስባሉ?

4. ጸረ-
ቲቪመድሃኒትንበአግባቡባለመዉሰድየምመጡዉነጠንቅዉ.ቃስ?መድሃኒትስለተላመዳቲቪበiሸታምንይላሉ?

5. የቲቪህክምናበህርይንልጎዱየምችሉባህላዊእስተሳሰቦችአሉብለዉያስባሉ?

6. በአከባቢዎትየቲቪበiሸተኞችከቲቪበiሸታለመዳንበለዉየምጠቀሙትየልምድመድሃኒትአሌ?ካሌምንድነዉ?

7. በጸሎትወይንምጠበልበመጠጣትከቲቪበiሸታመዳይቻላል?እንዴትያያሁ?


**PART 3- HADIYSSA VERSIONS**
**HADIYI SUU'M TIRATO XAM'ICHA**
**JIMM UNVERSITE'ENE MINADAPHI FAYA'OM LOSSA'N COLLEGA XUMM LOSA''NEKII HALATO'O SAAYYINS LOSSA'IN BAXANCHA**

Tiibe jabbina qarare massukku"uyya ee qararinne yookk mateeyoo'm haalat bikkinaa ee halato hanqatisoo luwwi bikinaa Hadiyy zona yoo fayya'oom minewane sawiite wixxaa"immina gudaakkooo xa'michuwwa.

Xa'mmicha asheerena illage doo'la la'imm formma_____

Xa'mamaanch xigo_____

Aaggi xummaato, hinkido xumma hee'llakka'a?

I summ……………………………………………………..yamamoko.An baxoommok jimm unversite"enne la"m digire"i losoo mann sarayimm kitaph tuut woronete. Ka faya"om mine uwakkam Tiibe"i qarerinne hinkido mateeyyom yooda'ee mahi ee mateeyyooma hanqatisooda'e sawwite aa'immina hofqax xa'micham xa'meena hassammo. Ka saarayimmik horoor wosh Tiibe qarare massukku"uyya ee qararinne yookk mateeyoo'm haalataa ee halato hanqatisoo luww saarayya.Ku saaray Tiibi"i qaraare awwaaxako'uyya mah ee awwaado hanqatisooda'e la'immina siidisoo er naqaash lobakata.Eebikina tiibi"I fayish awadone ki"in qarare masitakamisanee yoo danam luwa la"imina ki'n kutakam wosh lobakata awaadooko.Ka xa'mich worqatane ki'n summ te"im ki'n bikina caakisoo luww mahim kitaabamooyyo. Odim ki'n kutakam woshsha hundam iinniinsee ki'neensee mull man maceesoobee'isa mann bee baganne xa'mmoommo. Xa'mmichooma xa'mmeena xanoommok ki'ne xa'moommisina ijaajantakolas xale'ette dabachcha uwwimma hassakkobee"i ayy xa'michinam oo xa'mich gatona yimm xansiisoooko.Odim ayy amanennem ihaakko uullisee yimm xansiisookko.Ihukaaremdu ki'n kutakkam woshsh Tiibe qaraare awwaaximma hawodoo luwwa lanqaamma holloomisinaa lobakata axisamoo luwwi hinkanda'e ihukkisa la'immina lobakata hara'mmoko.
Xa"imicha xa"imanchina iitamtaka"a?.............1-ijaamakolas asheere

                                        2-ijaajamakko beelas mull manna hige
Xa'mmaanch summa -------------------------------------------, furmma'a--------------

Xa'mmakko balla ---------------, asheerakko'i ammane -----------, xuffakko'i ammane------------

Suppervaayizechch summa ----------------, furma'a --------------------

Hara'mmatina lobakata galaxxoommo

 Mish mare'e**:** 1. Beeddaakko        2. Xa'mmamaanch bee'e            3. Sabaakko

            4. Koll beddaakko        5. Mulleka

## BAXXANCH 1. LULE'I XAMICH DABARANCH BIKINA KURO LUWA/MERAJA'A

| xigo | Xa'mmicha | Dabachcha | Sorooba |
|------|-----------|-----------|---------|

| 101 | Umura | ------------hiinchinne | |
|------|-------|----------------------|---|
| 102 | Albacha | 1-goonchcho        2-meentichcho | |
| 102 | Mine isimm bikkina | 1.mine issu/isito bee'ane<br>2.mine isaakkoohane/isito'oohane<br>3.mine issaa holaakkohane/mine issita'a fitto'oohane<br>4.mi'n anni/ama lehakoohane/leto'oohane | |
| 103 | Baxi maha | 1.abuulaancho/te<br>2.adi'l baxaanchcho/te<br>3.dadaraanchcho/te<br>4.bal baxo baxaancho/te<br>5.mi'nn amate<br>6.mullan ihulas caakisshe……… | |
| 104 | Losa'n bikkina | 1-losan bee'e<br><br>2-qanaa'imma kitaabimma<br><br>3- 1-8 baxxancha<br><br>4- 9-12 baxxancha<br><br>6-la'm gabalii lobane | |
| 105 | Amma'nat maha | 1-protestaanta        3-kaatoliika<br><br>2-ortodoqsa          4- islaama<br><br>5-mullane…………… | |
| 106 | Shumo'i | 1-hadiyya              3-guraage'e<br><br>2-kambaata            4-silxe'e<br><br>5-amaaara<br><br>6-mullane (kullehe)_____ | |
| 107 | Mat agana hinka"ina siido | Ethiopian Birr _____ | |
| 108 | Heech gandisi | 1-beero'o          2-gaxara | |
| 109 | Ki'nnek guurat mee'o? | _____ KG | |

**BAXXANCH 2. TTBE'I JABBINA LULE LACHA KENIMMINA**

| xigo | Xa'mmicha | Dabach | Sorooba |
|------|-----------|--------|---------|
| 201 | Tiibe'i jabbi bikina macceessakka'a laqakkamo? | 1=eeyya<br>2=maceessummoyyo | |
| 202 | Tiibe'e amadiiso luww mada ihukkisa laqakkamo? | 1=eeyya<br>2=maceessummoyyo | |
| 203 | Xig 203 eeyyat ihulas, maha? | 1)hafachcha<br>2)jerma<br>3)qiid aphphisulas<br>4)jor manfasa/jinne'e<br>5)kee'mmaal baxo<br>6)jor fooshsha<br>7) mullek ihulas kullehe…………. | |
| 205 | Tiibe'I jabbika mare'e laqakamo? | 1=eeyya        2=la'oommoyyo | |
| 206 | Xig 206 eeyya ihulas ma maha? | 1) Hurbaaxx hasan hoffechcha<br>2) Hiimo xaqafisimma<br>3) kuxishsha<br>4) iibbisimma<br>5) orachcho hoogisimma<br>6) guurat hanqatimma<br>7) la'oommoyyo<br>8) mullek ihulas kullehe……. | |

| xigo | Xa'mmicha | Dabach | Sorooba |
|------|-----------|--------|---------|
| 207 | Tiibe'i mannii manna higoo? | 1=eeyya<br> 2=higooyyo | |
| 208 | Xig 208 eeyya ihulas, ma maha?<br>(lobakat dabach xanamookko) | 1) Tiibe jabbanch kuxximminne<br>2) Tiibe jabbaanch haxishshu yimminne<br>3) Tiibe jabbaanch mateeyya itimminne<br>4) Tiibe jabbanch mateeyya baxximinne<br>5)habiillinnette | |

| | | 6) mullek ihulas kullehe…… | |
|---|---|---|---|
| 209 | Tiibe ege'llimmi xanamoohone? | 1=eeyya<br><br>2=xanamooyyo | |
| 210 | Xig 210 eeyyat ihulas hinkid hoo'llakamo?<br><br>(lobakat dabach xanamookko) | 1)alcohola sijaara urimminne<br><br>2)mi'n maskota saanqaa, kaame maskootaa fooqaa'imminne<br><br>3)kuxxako'uuyya firu gansha danaamisa wixxaa'akka'a waammimmine<br><br>4)kuxxakko'uuyya suumme sanee ifiisimminne<br><br>5) gaga qidii ege'llimminne<br><br>6) mullek ihulas kullehe………….. | |
| 211 | Tiibe'I jabbii fayye'akkamo? | 1=eeyya<br><br>2=fayye'akkamoyyo | |
| 212 | Xig 212 eeyya ihulas hinkido'isinne?<br><br>(lobakat dabach xanamookko) | 1)Tiibe'i qaraare massimmine<br><br>2)xaloota issimminnee xabala agimminne<br><br>4)olla qaraarinne<br><br>5) la'oommoyyo<br><br>6) mullek ihulas kullehe | |
| 213 | Qaraarinne losamaakkoo Tiibe'e laqakamo? | 1=eeyya<br><br>2=la'oommoyyo | |
| 214 | Xig 214 eeyyat ihulas hinkido'isinne? | 1)seerramisa Tiibe qaraare masimma hoogimminne<br><br>2)ke'maall qiidinne<br><br>3)HIV/AIDS jabbinne<br><br>5) la'oommoyyo<br><br>6) mullek ihulas kullehe……… | |

**Section 3.Gaqq  sawwite**

| Xigo | Xa'mmicha | LI | I | MY | Iyyo | HI |
|------|-----------|----|----|----|------|----|
| **Tiibe jabbi baddisoohaano'm sawwite** | | | | | | |
| 3.1 | An sawwoomisanne Tiibe qaraare urako'uuyya massakkolas jab beddooyyo | | | | | |
| 3.2 | Tiib qaraarine mateeyyamcha hoogim lobakat jor luwwina afisookko | | | | | |
| 3.3 | Mat Tiibe jabaanch seraamisa qaraare massubelas jabbo odim daba'lookko | | | | | |
| 3.4 | An sawwoomis ihulas uramsakko'uuyya Tiibe qaraare masimm qaraare losamaakkoo Tiibe'ina higisaa uwwookko | | | | | |
| 3.5 | Tiibe jabbi eediisisam fayye'akkambee jabbo | | | | | |
| 3.6 | Tiibe ke'mmaal jab ihubikkina manna shoohane | | | | | |
| **Tiib qaraarinne mateeyyamim hara'mmoo luwwa sawwite** | | | | | | |
| 3.7 | Mulluca'a fayyiisoo olla qaraar yoobikkina Tiibe qarare massimm hasisoyyo. | | | | | |
| 3.8 | Mat manch Tiibe qaraarinne uwwakam sogitannuwwa danamisa aa'ulas yimmim; qarrae ammani massimma, mikimikaato isimmine, balla egera marimminne, hurbaata danamisa itimmine lobakat qeddii ege'limma xanookko. | | | | | |
| 3.9 | An sawwoommis mat manch akkamamoo'nim tiibe'iins fayye'imma xanokko | | | | | |
| 3.10 | An sawwoomis ihulas olla qarari Tiibe'iins fayyiisookko | | | | | |
| | | | | | | |
| 3.11 | An awwoommis mataa Tiibe mare'uww bee'ulas balla egeraa fayya'oom mine marimm eehaa'nam hasisooyyo | | | | | |

**Tiibe qaraarinne yookk mateeyyooma hooroo luwwa sawwite**

| 312 | Tiibe qaraar massimanne  kee'mmall hawwojj yookko | | | | | | |
|-----|---------------------------------------------------|--|--|--|--|--|--|
| 313 | Ball hundam Tiibe qaraarina fayya'oom mine marimm horiyyem kee'mallaa lobakat diinatem masafarina hasoohanee | | | | | | |
| 314 | Cawwaka'a fayya'oom mine Tiibe qaraarina marimm amxa guullohane | | | | | | |
| 315 | An sawwoommis hund ammanem qaraare sawwimmii liqicimmii lobakata shigiga;oohane | | | | | | |
| 316 | An sawwoommis mat manch Tiib jab hee'ulas hund mannim ixxo sabookko | | | | | | |

## BAXXANCH 4. MATEEYYOO'M GATTINNE WARROO QUUXXO

| Sr.no. | Question | Response | Remark |
|--------|----------|----------|--------|
| 401 | Who decide for treatment when you sick? <br> At xissitoo ammane akii'm mine matteena aye xa'mitootto? | 1)mi'n anna/ama <br> 2)i gaga <br> 3) qar manch <br> 3)mullek yoolas kure | |
| 402 | Mull mann ki Tiibe jabbi akkamanchina maha sogoo? | 1)gaassitaa olla qaraare masse yookko <br> 2)Tiibe qaraare fayya'oom minii massee yookko <br> 3)xaloota issimma/ xabal agimma <br> 4)mullek yoolas kure | |
| 403 | Qaraare massituuyya hara'mmoo mann yoo? | 1=eeyya <br> 2=bee'e | |
| 404 | Xig 503 Eeyyat ihulas, ayye hara'moo? | 1)abaroos <br> 2)qarmann <br> 3)besha <br> 4)extension baxaano <br> 5)olla manna <br> 6) mullek yoolas kure | |
| 405 | Qaraare massitoo'isina gafe'amsoo maan yoohonnihe? | 1=eeyya <br> 2=bee'e | |

| 406 | Xig 503 Eeyyat ihulas, ayye? | 1)abaroosa<br>2)mi'n anna/ama<br>3)qaramanna<br>4)ollamanna<br>5)Amma'nnax awwonsaaniins<br>6)mullek yoolas kure | | |
|-----|------|------|---|---|
| 407 | Xig 503 Eeyyat ihulas, ma'isimmine hara'mamukkok? | 1)qaraare massoomm ammane tiissiisimminne<br>2) quux balla tissiisimmine<br>3)qaraare liqicommisina gafe'ansamokko<br>4)diinatinne hara'mamookko<br>5)hurbaata hincaachinne<br>6)mullek yoolas kure | | |
| 408 | Qaraare masitoobe'isa isseena yakoo mann yoo? | 1=eeyya<br>2=bee'e | | |
| 409 | Xig 506 Eeyyat ihulas, ayy ayyete? | 1)abaroosa<br>2)besha<br>3)bax beyyo yoo manna<br>4)olla'a<br>5)mullek yoolas kure | | |
| 410 | Ka Tiibe qaraare masittuuyya lachmann beyyo Tiibe fayyisoo qaraare massiteena mattaa laqqoo? | 1=eeyya<br>2=bee'e | | |

## BAXXANCH 5. FAYYA'OOM MININNE EXAAKKOO QUUXINA

| 501 | Ka jabina luxaneme? | 1)Luxxane          2)La'mmane | | |
|-----|------|------|---|---|
| 502 | Hinka do'o? | 1)asheero do'o    2) awwonoo do'o | | |
| 503 | Kaba jabbi mare'uww yoo? | 10 yookko          20 bee'e | | |
| 504 | Fayya'oom mine affeena masso ammane hinkaa'na ihoo? | 1)<=30daqiiqa<br>2)>30daqiiqa | | |

| 505 | Fayya'oom mine awwado siddeena egettoo ammane hinkaa;nna ihoo? | 1)<=30daqiiqa 2)>30daqiiqa | | |
|------|------|------|------|------|
| 506 | Daba'llamtoo mahinne? | 1)lokkinnete 2)kaame'innette | | |
| 507 | Fayya'oom mine wattit amman hundam qaraare siddoo? | 1) hund ammanem siidoommo 2) hund ammane siidoommoyyo | | |
| 508 | Fayya'oom awwaado uwoo akimmuw kinninne hinkido hincit yoo? | 1)horem beshuwwisa 2)beshsuwwisayyo | | |
| 509 | Danaamisa ihooqax sogitano Tiibe qaraa'l bikina siddakamo? | 1=eeyya 2=bee'e | | |
| 510 | Xig 506 Eeyyat ihulas, mabikkina sogitano uwwako'o? | 1)ball hundamii ammane egera qaraare massoommisina 2)qaraar eebo xiss bikina 3)hurbaaxx bikina 4)Balla egeraa warimm bikina 5)abaroosanne Tiibe higoo be'isa ege'llimm bikina 6) mullek yoolas kure | | |

**BAXXANCH 6. 24 SA'AAT QARAA'L MATEEYYOOMA KEENIMMINA**

| Xigo | Xa'mmicha | Dabacha | sorooba |
|------|------|------|------|
| 6.1 | Higu 24 sa'aatanne Tiibe qarare daranne massitaka'a? | 1)eeyya 2)massummoyyo | |
| 6.1.1 | Eeyyat ihulas xig 7.1, mee'I kiniina darane massitakko'o? | 1)1 2)2 3)3 4)mullan ihulas kullahe | |
| 6.2 | Higu 24 sa'aatanne Tiibe qarare ballane massitakka'a? | 1)eeyya 2)massummoyyo | |

| 6.2.1 | Eeyyat ihulas xig 7.1, mee'I kiniina ballane massitakko'o? | 1)1 2)2 3)3 4)mullan ihulas kullahe | |
| 6.3 | Higu 24 sa'aatanne Tiibe qarare hiiminne massitakka'a? | 1)eeyya 2)massummoyyo | |
| 6.3.1 | Eeyyat ihulas xig 7.1, mee'I kiniina hiiminne massitakko'o? | 1)1 2)2 3)3 4)mullan ihulas kullahe | |

## BAXXANCH 7. LAMAR BALL QARAA'L MATEEYYOOMA KENIMMINA

| Xigo | Xa'mmicha | Dabacha | sorooba |
| --- | --- | --- | --- |
| 7.1 | Higu lamar ball woronne Tiibe qarare daranne massitako amman yoo? | 1)eeyya 2)massummoyyo | |
| 7.1.1 | Eeyyat ihulas xig 8.1, mee'I kiniina daranne massitakko'o? | 1)1 2)2 3)3 | |
| 7.1.2 | Eeyyat ihulas xig 8.1, mee'I balla daranne massitakko'o? | 1)1 2)2 3)3 4)4 5)mullek yoolas kullehe | |
| 7.2 | Higu lamar ball woronne Tiibe qarare ballanne massitako amman yoo? | 1)eeyya 2)massummoyyo | |
| 7.2.1 | Eeyyat ihulas xig 8.1, mee'I kiniina ballanne massitakko'o? | 1)1 2)2 3)3 | |
| 7.2.2 | Eeyyat ihulas xig 8.2, mee'I balla ballane massitakko'o? | 1)1 2)2 | |

| | | 3)3 | |
| | | 4)4 | |
| | | 5)mullak yoolas kullehe | |
| 7.3 | Higu lamar ball woronne Tiibe qarare hiiminne massitako amman yoo? | 1)eeyya | |
| | | 2)massummoyyo | |
| 7.3.1 | Eeyyat ihulas xig 8.1, mee'I kiniina ballanne massitakko'o? | 1)1 | |
| | | 2)2 | |
| | | 3)3 | |
| 7.3.2 | Eeyyat ihulas xig 8.3, mee'I balla hiimonne massitakko'o? | 1)1 | |
| | | 2)2 | |
| | | 3)3 | |
| | | 4)4 | |
| | | 5)mullek yoolas kullehe | |
| 7.4 | Ayy ammanem Tiibe qaraare massit bee mashka'a kuttoo? | 1) xadaammate | |
| | | 2) mataayyaammate | |
| | | 3)mine he'ummoyyo | |
| | | 4)qaraare massoommare xissiisaa hawisukkare | |
| | | 5)manni I bikkina woccaatii eese annan isatii hawisukkaare | |
| | | 5) jabbi mare'e ullukarete | |
| | | 6)Aki'm mine qaraare be'ukkarete | |
| | | 7)akii'm min qee'llate | |
| | | 8)akkim wocamo'is akamamo'isii mishisubebikkinatte | |
| | | 10)mullekim yoolas kullehe | |

**BAXXANCH 8.Qaraare massimma uullisakko mashika'a kuttakkeena xantakkamo?**

| Sr.no | Question | | Response | Remark |
|-------|----------|---|----------|--------|
| 801 | Higu saantanne tiibe qaraare masittako bee mashka'i maha? | 1)xadaammatette<br><br>2) jabbi mare'I bee'ukkaare<br><br>3)mine hee'ummoyyo<br><br>4)qaraare liqicoomma xissukkrette<br><br>5) hakii'm min qee'llukkaarette<br><br>5) matayyaammatette<br><br>6)hakii'm mine qaraar bee'aatette<br><br>7) liqicummuuyy mann moo'oohaanninatte<br><br>8)mullek yoolas kullehe | | |

## WORORO'L SAWWITE FISSAKA'A LA'IMMINA HINCAAKKOO GUDO'O

**(Qaraare massakuyya hara'moo manninaa exkisteensiin baxaaninaa)**

Xammich asheerena illage doo'la la'imm forma_____

AaGgi xummato, hinkido xumma hee'llakka'a?

I summ…………………………………………………..yamamoko.An baxomok jimm Unversite'ene la'im digire'i losoo man sarayim kitaph tuut woronete.Fayy'oom minneewwanne uwakkam Tiibe"i qarerinne Tiibe jabbaan hinkido mateeyyom yooda'ee mahi ee mateeyyooma hanqatisooda'e sawwite aa'immina hofqax xa'micham xa'meena hassammo. Ka saarayimmik horoor wosh Tiibe qarare massukku"uyya ee qararinne yookk mateeyyoo'm haalataa ee halato hanqatisoo luww saarayya.Ku saaray Tiibi"i qaraare awwaaxako'uyya mah ee awwaado hanqatisooda'e la'immina siidisoo er naqaash lobakata.Eebikina tiibi"I fayish awadone jabbaan qarare massamukkuuyya yoo danam luwa la"imina ki'n kutakam wosh lobakata awaadooko.Ka xa'mich worqatane ki'n summ te"im ki'n bikina caakisoo luww mahim kitaabamoyo.Odim ki'n kutakam wosha hundam iininsee ki'neesee mul man maceesoobee'isa man bee bagana xa'mmommo.Xamichoma xa'mena xanomok ki'ne xa'momisina ijaajantakolas xale'ete, dabacha uwima hasakobe"i ayy xa'imichinam oo xa'imich gatona yimm xansiisooko.Odim ayy amanenem ihaako uulise yim xansiisooko.Ihukaremdu ki'in kutakam wosh Tiibi"I qaraare awwaaximma hawodoo luwwa lanqamma holloomisinaa lobakata axisamo luwi hinkanda"e ihukisa la"imina lobakata hara"imoko.

Xa'imicha xa'imanchina iitamtaka'a?.............1-ijaamakolas…………… asheere

2-ijaajamakko beelas .galaxitaa mull manna hige

Ka saraayy quuxinne exaakkoo ayy woshshinam awwonaa yoo mancho siidimm xansisookko

**Tiibe qaraarinne yoo taphanancha hanqatisoo luwwa saarayyimmina gudaakkoo xa'mmicha**

1. Tiibe qaraare massoo jabbaan haalaxxi bikina mayyitakkamo?
2. Tiibe qaraare jabbaan massukkuuyya mahi ee haalato hanqatisoo?
3. Tiibe kiniiniins mullek tiibe jabbo fayyiisoo luwwi qaraar yoo? Eddaa woccise
4. Tiibe qaraarinne taaphananch hoong eeboo saat bikkina laqakkamo? Qaraarinne losamaakoo Tiibe bikina laqakkamo?
5. Tiibe qaraarinne yoo taaphanancha hanqatisoo lossammi luwwi yohonne? Eddaa wocise
6. Ki hegeegonne Tiibe jabbaan jabbiins fayye'eena lach manni olla'anne uwwoo qarrare awwaxxoo at laqoo mann yoo? Eddaa wocise
7. Tiibe jabbii fayye'immina xaloota issimmaa xabala awwaaximm bikkimaa mayyitoo?