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Health Seeking Behavior and Associated Factors Among Adult Pulmonary Tuberculosis Suspects in Enebsie Sarmider Woreda, Amhara, Ethiopia

Fentahun, Alebie

BAHIR DAR UNIVERSITY COLLEGE OF MEDICINE AND HEALTH SCIENCE SCHOOL OF PUBLIC HEALTH DEPARTMENT OF EPIDEMIOLOGY AND BIOSTATISTICS

ETHIOPIAN FIELD EPIDEMIOLOGY AND LABORATORY TRAINING PROGRAM (EFELTP)

HEALTH SEEKING BEHAVIOR AND ASSOCIATED FACTORS AMONG ADULT PULMONARY TUBERCULOSIS SUSPECTS IN ENEBSIE SARMIDER WOREDA, AMHARA, ETHIOPIA

BY

FENTAHUN ALEBIE ALEMAYEHU (BSC MEDICAL LABORATORY)

A THESIS SUBMITTED TO DEPARTMENT OF EPIDEMIOLOGY AND BIOSTATISTICS, SCHOOL OF PUBLIC HEALTH, COLLEGE OF MEDICINE AND HEALTH SCIENCES, BAHIR DAR UNIVERSITY AS A PARTIAL FULFILMENT FOR THE REQUIREMENTS OF THE DEGREE OF MASTER OF PUBLIC HEALTH IN FIELD EPIDEMIOLOGY

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FENTAHUN ALEBIE ALEMAYEHU

EMAIL: alebiefanta@gmail.com

ADVISORS; PROFESSOR GETU DEGU

EMAIL:adgetu123@yahoo.com

MR. KASSAWMAR ANGAW

EMAIL: kassawmarangaw@gmail.com

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ACRONYMS

AOR	Adjusted Odds Ratio
CI	Confidence Interval
COR	Crude Odds ratio
DOT	Directly Observed Treatment
DR	Drug Resistance
DST	Drug Sensitivity Test
HAD	Health Development Army
HEW	Health Extension Worker
HIV	Human Immune Virus
MDR	Multi Drug Resistance
NGO	Non-Governmental Organization
PTB	Pulmonary Tuberculosis
SPSS	Statistical Package for Social Science
TB	Tuberculosis
WHO	World Health Organization

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ABSTRACT

Background: Tuberculosis is a disease caused by an organism called Mycobacterium tuberculosis. Globally, 10.0 million people developed tuberculosis disease in 2017. Ethiopia is the third highest tuberculosis burden country in Africa. Health seeking behavior explains that people differ in their willingness to seek help from health care services. In Enebsie Sarmider Woreda, there were low tuberculosis detection rate (112/100,000) and low community tuberculosis suspects referral.

Objective: Objective of this study is to assess health seeking behavior and associated factors among adult pulmonary tuberculosis suspects in Enebsie Sarmider Woreda, Amhara, Ethiopia, 2019.

Methods: Community based cross-sectional study was conducted during March 27/ 2019 to April 27 / 2019 in Enebsie Sarmider Woreda. The study population were PTB suspects who were greater than or equals to 15 years old. Stratified multistage sampling technique was used. The sample size was 1710 individuals. Fourteen health extension workers and two health officers were recruited data collectors and supervisors respectively. The data were collected, coded, entered into EpiData versin3.1 and exported to Statistical Package for Social Science version 23 software for analysis. The descriptive data were presented by using table and graph. The significance of the study was presented by using odds ratio with 95%CIand p value less than 0.05.

Results: The findings of study showed that 771(45.1%) pulmonary tuberculosis suspects with 95%CI 43-47% had health seeking behavior. Health seeking behavior was significantly associated with urban residence (AOR:3.54, 95%CI 2.08-6.02), educational status college and above (AOR:5.20,95%CI 2.61-10.34), secondary school (AOR:1.80, 95%CI 1.19-2.71), member of community based health insurance (AOR:4.06, 95%CI 3.22-5.11), hemoptysis (AOR: 1.99, 95%CI 1.49-2.65), duration of cough less than or equals to one month (AOR:2.25, 95%CI 1.74-2.92) and good knowledge (AOR:2.78, 95%CI 2.14-3.62).

Conclusion and recommendation: The magnitude of health seeking behaviors among pulmonary tuberculosis suspects was 771(45.1%) with 95% confidence interval 43- 47%. Health seeking behavior among adult pulmonary tuberculosis suspects was significantly associated with educational level, knowledge, community based health insurance, hemoptysis, duration of cough and place of residence. Improving awareness for tuberculosis among rural community, membership of community health insurance, education, community awareness signs and symptoms of tuberculosis and availability rapid diagnostic tuberculosis test and slide transportation are required to improve health seeking behavior.

Keyword: Ethiopia, cough, Health seeking behavior, Tuberculosis.

1. INTRODUCTION

1.1 Background

Tuberculosis (TB) is a disease caused by an organism called Mycobacterium tuberculosis, a rod-shaped bacillus. Occasionally the disease can also be caused by Mycobacterium bovis and Mycobacterium africanus. M.Tuberculosis is usually affecting the lungs in which case it is called pulmonary TB(1). Tuberculosis is mainly transmitted person-to-person by inhalation of infected droplet nuclei, which are expelled into the air when an untreated infectious pulmonary TB patient coughs or sneezes(2).

Any person who presents with symptoms and/or signs suggestive of tuberculosis, in particular cough of two weeks or more duration is a TB suspect. The most common symptom of pulmonary TB is a productive cough for more than or equals to 2 weeks, which may be accompanied by other respiratory symptoms (shortness of breath, chest pains and Haemoptysis) and/or constitutional symptoms (loss of appetite, weight loss, fever, night sweats, and fatigue) (2).

Worldwide, TB is one of the top 10 causes of death and the leading cause from a single infectious agent(3).

In 2017, TB caused an estimated 1.3 million deaths (range, 1.2–1.4 million) among HIV-negative people and there were an additional 300, 000 deaths from TB (range, 266, 000–335, 000) among HIV-positive people (3).

Globally, 10.0 million people (range, 9.0–11.1 million) were developed TB disease in 2017: Among these, 5.8 million men, 3.2 million women and 1.0 million were children. There were cases in all countries and age groups, but overall 90% were adults (aged ≥15 years), 9% were people living with HIV (72% in Africa). Ethiopia is the third highest TB burden country in Africa (3).

TB is a treatable and curable disease. Active, drug-susceptible TB disease is treated by First line anti TB drugs with a standard 6-month course of 4 antimicrobial drugs that are provided with information, supervision and support to the patient by a health worker or trained volunteer. Without such support, treatment adherence can be difficult and the disease can spread. The vast majority of TB cases can be cured when medicines are provided and taken properly (1). However due to different health seeking behaviors the community had one of the challenge in adherence(4).

Health seeking behavior is a particular aspect of help seeking behavior and it explains that people differ in their willingness to seek help from health services(5). Some people go readily for treatment, others go only when there were too much in difficulty and in advanced and final stages of ill health. Help-seeking behaviors of pulmonary tuberculosis suspects are influenced by personal experiences, knowledge and meanings of illness, as well as by sociocultural responses(6). In Enebsie Sarmider Woreda, there were low TB detection rate (112 per 100,000 population) and low community TB suspects referral and the magnitude of health seeking for TB did not know (7). So, it is difficult to identify which determinants are most influential in the decision to seek health care in the study area. Economy, perceptions, knowledge, age, gender roles and pervious history of tuberculosis treatment are all among the extensive list of factors influencing to health seeking behavior.

Ethiopian community TB Control Strategies rests on the success of its flagship health Extension which use Health Extensions Workers(HEW) operating out of more than 30,000 health posts to deliver a basic package of health service to country predominately rural population. The extension of TB prevention and control service is being rolled out as part of the HEW package with the support of health development army to strength identify missed TB suspects and to improve health seeking behaviours in the community (8).To find TB patients early during the course of their illness and strength health seeking behavior in the community, a wide range of stakeholders from inside and outside the health sector need to be engaged (9).

1.2 Statement of the problem

Globally, about a third of the world's population are estimated to be infected with tubercle bacilli and hence at risk of developing active disease(3). Despite dramatic improvement made since 1990s to provide high quality of TB service, many people with TB remain undiagnosed due to low health seeking behaviors. These high undiagnosed TB suspects in the community cause much suffering and economic hardship and sustain transmission(10).

Ethiopia is the seventh highest MDR-TB country in the worldwide. The country is still with high number of missed and infectious TB suspects in the community (11).

Tuberculosis is a disease which has a cure yet many deaths have resulted from it due to lack of health seeking behaviors. Study in South west Ethiopia (Gilgal Gibe field research) showed many people seek health when the disease has progressed to an advanced stage. Most of them did not seek help for their illness as a result of wrong perceptions and lack of financial resources

mainly for transport. A significant number of them did nothing since they considered that their illness was not severe(12).

In Enebsie Sarmider Woreda, there was low pulmonary TB detection and low passive and active case finding TB suspects referral from the community (7), It indicates there were high number of missed and infectious PTB suspects in the community, low health seeking behavior to visit health facility and there is a transmission of TB in the community. But factors associated with low TB suspect referral and low health seeking behaviors for TB are not known. There were no previous studies conducted in health seeking behavior and associated factors among adult pulmonary tuberculosis suspects in Enebsie Sarmider Woreda. Therefore, assess health of seeking behavior and associated factors among adult pulmonary TB suspects in Enebsie Sarmider Woreda are essential.

1.3 Significance of the study

The result of the study will be used for health care provides to develop local intervention plan to improve the health seeking behavior of the community. And also provide valuable information for policy makers and concerned stakeholders for future planning, allocate budget and prioritize interventions to strength health seeking behavior of the community. Managers will get information for clear understanding and to prioritize allocation of resources and intervention for strengthens health seeking behavior in the community.

The result of the study will be used for study participants; used to prevent themselves and others from illness

The finding of this study will also help as a baseline data for those who are interested in carrying out further research with this regard.

2. LITERATURE REVIEW

2.1 Health seeking behavior

The health seeking behavior of TB suspects varied from country to country. In Ukraine, for instance, 88% of the respondents reported that they visited polyclinic or hospital as a primary choice (13). In India, 87% of the study participants reported that they had taken some kind of self-initiate education such as home remedies (14).

In another Indian study, 72% of respondents reported that they had consulted nonprofessional private healer (15).

In Vietnam, 43.9% of the cough suspects (1924 of 4381) had sought medical care. Those TB suspects most often the first approached facility were pharmacy (34.9%), followed by community health post (29.3%), public hospital (24.2%) and private physicians (10.3%) (16).Study in rural Puducherry, India showed the reason to seek care to health facilities was better care received 112 (66%), was nearby 41(21.5%), suggested by friends and family members 28(14%), trusted by the people 26(13%), usually seek for common illness 15(7.5%) and more convenient time 5(2.5%) (6).

In Gambia, majority of people from the study population seek help (17). Respondents from Uganda reported that they used self-treatment as a primary choice and visited health institutions when they became bedridden in most cases (18).

In south west Ethiopia (Gilgal Gibe field research) study showed that 220 (46.2%) did not seek help for their illness, 120 (25.2%) went a health institution, 125 (26.3%) went to drug vendors, 29 (6.1%) went self-medication and 2(0.4%) went to traditional healer. Lack of money mainly for transportation (125 (56.8%)), the perception that the disease will improve (104 (47.3%)) and considering the disease to be harmless (19 (8.6%)) were mentioned as reasons for not seeking help(12).

Another study in Afar Region showed that self-treatment reported a significance longer delay (52.5) compared to those without self-treatment (15 days) (19).

Study in Lay Aremacho district showed the majority of PTBC suspects (60.9%) visited modern health care facilities first whereas the rest of PTBC suspects took some other kind of individual action which included but not limited to home treatment and traditional medicine (20).

Study in Merawi district, the study showed 604(60%) of TB suspect visited medical health provider,183(18%) take an action traditional health care and 219 (22%) did not seek any health care (21).

2.2 Factors associated health seeking behavior and socio economic factors

2.2 .1 Socio-demographic characteristics

In south west Ethiopia (Gilgal Gibe field research) study showed that the overall median delay to seek help somewhere (except visits to traditional healers) was 4 weeks (range 2–52 weeks). Lack of money mainly for transportation is the factors for delay (125 (56.8%)(12).

Study conducted in Vietnam showed that women had shorter patient delay than men. A study conducted in Vietnam reported that no primary education and no employment were determinate factors for health seeking behaviors(16).

Study Sibiu Sire District, East Wollega Zone showed higher family income was significantly associated with lower treatment seeking intention (22).

Study conducted in Northwest Ethiopia (Felegehiwet hospital) showed Patients residing in rural areas had greater in patients' delay compared to patients from urban areas (23).

In Lay Aremacho study, pulmonary tuberculosis suspects aged 15 to 34 and aged 35–54, level of education with respondents who had secondary educational level and above and civil servants or farmers were determinate factors for health seeking behaviors (20).

Study in Merawi district, women were found to be less likely to visit a medical health provider than men(21).

Bahirdar town study showed educational statues of below college level was an independent predictors for patient delay(24).

Study in Center of China, Wuhan city, health insurance is also an influential factor of health care seeking for TB suspects (25).

2.2.2 Perceived health status

In Lay Aremacho, study showed respondents who had perceived that they were sick were more likely to visit a modern health care facility than those who perceived that they were well (20).

Study in Merawi district, the study showed TB suspects asked about their perception regarding to illness,463(46%) were *"bird"*,140 (14%) were TB,362 (36%) not any kind of illness and 40 (4%) were asthma and common cold (21).

2.2.3 Illness related factors

Other studies in East China showed having Hemoptysis or bloody sputum before initial health-seeking were significantly associated with delayed initial health-seeking (26). In Vietnam study showed the average patient delay was 4.1 weeks among cough suspects (16).

Study in Lay Aremacho, Merawi district and South West Ethiopia (Gilgal Gibe field research) showed individuals who had previous TB were determinate factors for health seeking behaviors(20,21,12).

Study in Merawi district showed those with cough duration greater than 30 days were more likely to health care seeking a medical health facility than those with a duration of cough less than or equals to 30 days (21).

2.2.4 Knowledge

Study Sibiu Sire District, East Wollega Zone showed in Knowledge was factor health seeking intention (22).

In South West Ethiopia (Gilgal Gibe field research) study showed 83% TB suspects had ever heard of TB. The study showed ‘‘Evil eye’’ (50.4%), germs (33.7%), Satan and witchcraft (15.9%) were thought to be causes of TB. The study showed 91.6% of the TB suspects thought that the lungs were the most affected part of the body. Cough for more than 2 weeks (74.4%) and Hemoptysis (50.6%) were mentioned as TB symptoms(12).

2.2.5 Source of information

Study conducted by WHO Regional Office for the Eastern Mediterranean in Egypt showed that the source of information about tuberculosis got 359(44.8%) from health staff, 163(20.3%) from television (media), 110(13.7%) from friends, 107(13.3%) from tuberculosis patients and 30(3.7%) from educational institutions (27).

2.2.6 Distance to health facility

Study in Jordan, the accessibility of the community to health services was significantly better in urban compared to rural areas. Almost 97% and 69% of the TB suspects in urban and rural areas respectively, access of the health services within half one hour(28).

The study conducted rural area of Central China, walk time to the nearest town hospital by TB patients were 284(20.2%) less than 15minute, 408(28.9%) 15-30 minutes, 433(30.75%) 30-45 minutes and 283(20.1%) greater than and equals to 45 minutes (25)

3. CONCEPTUAL FRAME WORK

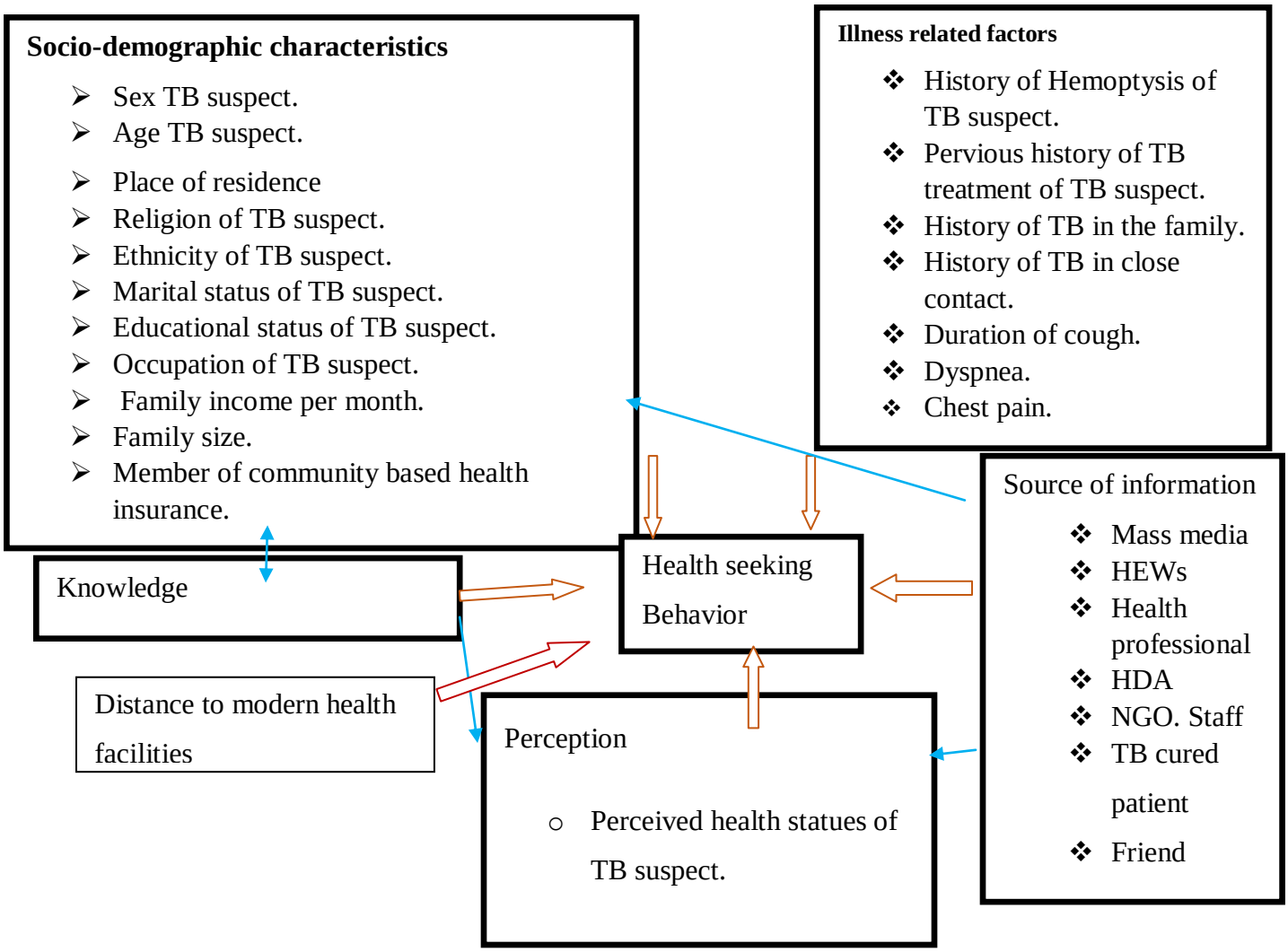

Figure 1 conceptual framework for the assessment of health seeking behavior and associated factors among adult pulmonary tuberculosis suspects in Enebsie sarmider woreda, 2019 (6, 20, 21, 22, 23, 25).

4. OBJECTIVES

4.1 General objective

To assess health seeking behavior and associated factors among adult pulmonary TB suspects in Enebsie Sarmider Woreda, Amhara region, Ethiopia, 2019.

4.2 Specific objectives

- To determine magnitude of the health seeking behavior among adult pulmonary TB suspects.
- To identify factors associated with health seeking behavior among adult pulmonary TB suspects.

5. METHODS

5.1. Study design and period

Community based cross-sectional study was conducted from March 27/ 2019 to April 27 / 2019.

5.2. Study area/setting

The study was conducted in Enebsie Sarmider Woreda, East Gojjam Zone of Amhara Regional State Ethiopia. It is located 365 kilometers far from Addis Ababa, the capital city of Ethiopia and 182 kilometers far from Bahirdar city and 192 kilometers far from Debremarkos city. The Woreda administratively divided into four urban *Kebles* and 33 rural *Kebles*. The rural population accounts for 88.9% of the Woreda total population. The area has three geo-climate zones. Kola which constitutes 53%, Weinadega constitutes 33% and Dega which constitutes 14% of the total area. There was one primary hospital, eight health centers, 37 health posts and five private health facilities to give service for 165,071 total populations, 94,702 greater than or equals to 15years populations and 38,389 households. All health centers and hospital provided TB DOTs. All health posts participate in community TB suspect referral(7).

5.3 Population

5.3.1 Source population

- The source population were PTB suspects who were greater than or equals to 15 years of age who lived six months and above in Enebsie sarmider woreda.

5.3.2 Study population

- The study population were PTB suspects who were greater than or equals to 15 years who lived six months and above in the selected Kebels.

5.4Eligibility criteria

5.4.1 Inclusion criteria

- PTB suspects who were greater than or equals to 15 years who lived six and above months in the study area.

5.4.2 Exclusion criteria

- Adult PTB suspects who were unable to respond due to any sever illness.

5.5 Study variables

5.5.1 Dependent variable

- Health Seeking Behavior (Yes / No)

5.5.2 Independent variables

- Socio demographic related factors (sex, age, place, religion, ethnicity, marital status, educational status, occupation, income, family size and member of Community based health insurance).
- Illness related factors (History of hemoptysis of TB suspect, pervious history of TB , history of TB in the family, history of TB in friends, duration of cough, Dyspnea and chest pain)
- Perceived health status
- Knowledge
- Source of information (Mass media, HEW workers, Health professional, HDA, NGO staff, Friends and TB cured patient)
- Distance to modern health facilities

5.6. Operational definitions

- Health seeking behavior is defined as an individual who goes to modern health facilities as the first choice to get relief from his/her presenting symptoms at the first time.
- Modern Health facilities are modern health care facilities including health post, clinics, health centers and hospitals owned by the government or the private sector (20).
- Pulmonary Tuberculosis (PTB) Suspect is any person who presents with symptoms and/or signs suggestive of tuberculosis, in particular cough of two weeks or more duration is a TB suspect(1).
- Knowledge is referring to respondents understanding about the tuberculosis disease regarding to causative agents of disease, route of transmission, symptoms, diagnosis, treatment and prevention.
    - Greater than median knowledge score ------ Good knowledge
    - Less than or equals to median knowledge score ------- poor knowledge

5.7. Sample size determination and sampling Methods

5.7.1 Sample size determination

The sample size required for this study was determined by using the formula for a single population proportion. Since previous study, 60.9 % prevalence of health seeking behavior(modern health facilities visited in Lay Aremacho district (20) were considered ,95% confidence level, 5% margin of error, design effect 2 and 10 % non-response rates.

$N = z_{(a/2)}^2 p(1-p)/w2$

$= (1.96)2 * 0.609 * (1-0.609) / (0.05)2$

$= 0.0826558656 / (0.02)2$

$= 369$

=with design effect 1.5

=554

= 554 and non- response rate 10% was 55.4, the final sample size was 610 Individuals

To determine the sample size by using Epi-info software and to get sufficient sample size using prevalence and odds ratio, some of the factors that had strong association with health seeking behaviors among Adult pulmonary TB suspect previous studies done in Lay Aremacho had taken. The factors were summarize by the following table.

Table 1 Sample size determination, 2019

Variables/factor	Confidence level	Power	Ratio(un exposed to exposed)	%out come in in un exposed group	AOR	Sample size
Age	95	80	0.34	36.3	2.45	235(n2)
Occupation			1.06	54.08	1.43	1060(n1)
Educational level			2.19	62	2.61	249(n3)
Perceived health statues			0.21	42	3.16	190

The greater sample size was 1060 so using design effect 1.5 and 10% non-response rate 1749 individuals. The sample size with factors was greater than sample size calculated by single population proportion (610).

Therefore, the overall sample size was 1749 individuals.

5.7.2 Sampling methods

Stratified multistage sampling technique was used in this study. Those 4 urban and 33 rural *Kebels* stratified. All 4 urban and 33 rural *Kebles* were included in the sampling frame. Eleven *Kebles* from rural and 2 *Kebels* from urban were selected by using simple random sampling methods. The households were selected by using systematic random sampling from the selected kebels after a reference house has been selected randomly from the community health information system (CHIS) list of households. Sampling interval was calculated considering the house hold of the area. The sample size was proportionally allocated to each selected Kebels based on household. During the survey, the head of the house hold asked about whether or not any family member had cough for a duration more than or equal to two weeks. If there was no the head of the household during the survey, asked the next head household. When pulmonary TB suspects gain, the data collectors were interviewed suspects using the questionnaire. If more than one pulmonary TB suspects gain in one household, one pulmonary TB suspect selected randomly method (lottery) for interview. Three times visits were conducted for those individuals who did not available during the first visit. Then data collectors were conducted house to house survey in systematical randomly selected household.

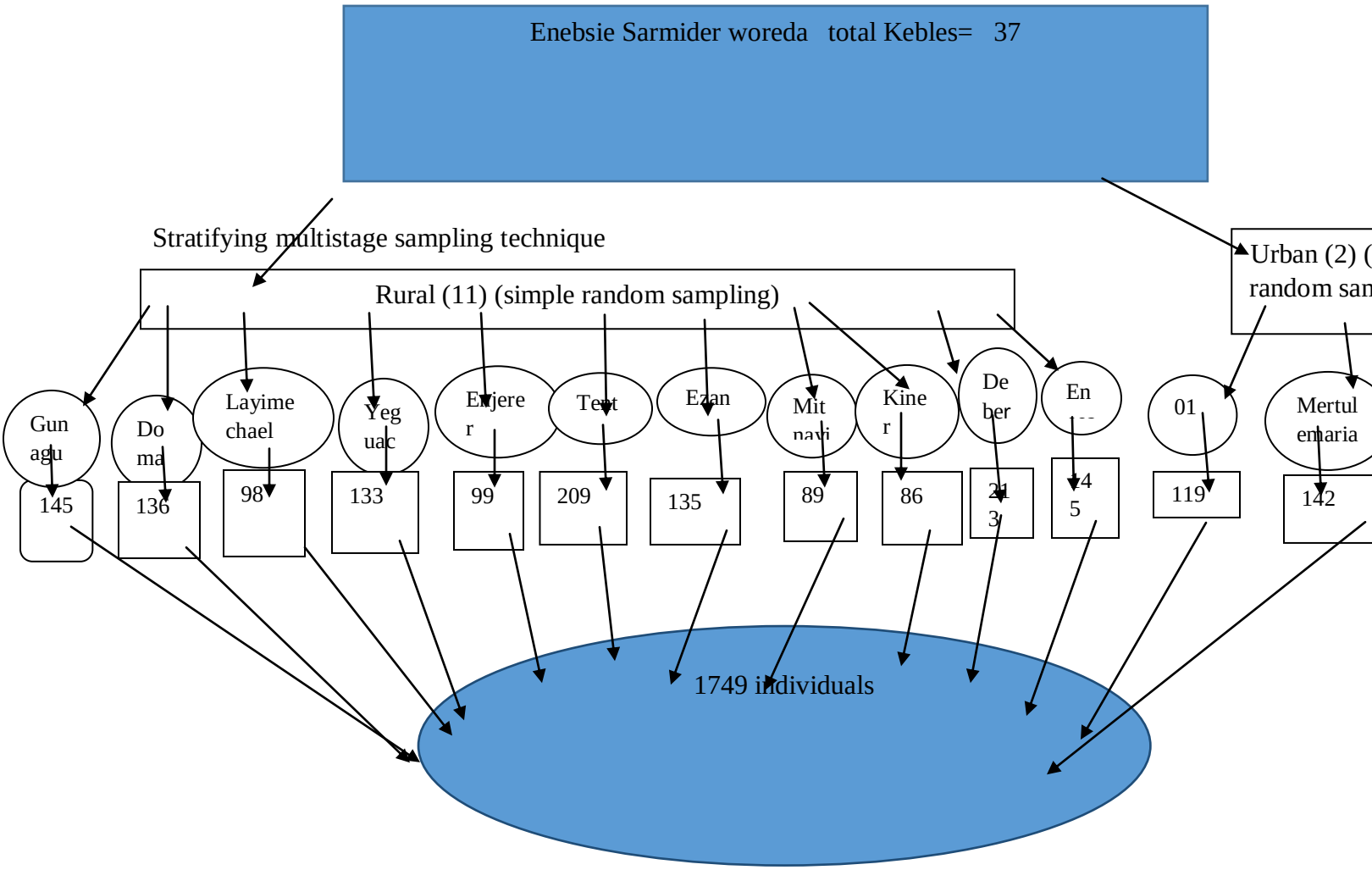

Figure 2: show that sampling procedures of selecting study participant's issue

5.8. Data collection instrument and data collection methods

Fourteen health extension workers were recruited for data collection and two health officers were recruited for supervisors. The data were collected using a pretested structure questionnaire which was developed from literature and variables. The structure questionnaire contained socio demographic related factors, illness related factors, perceived health status, knowledge, source of information and distance to modern health facilities. To maintain consistency, the questionnaire first translated from English to Amharic (the nature language of the study area) and retranslated to English by professional translators and public health experts.

5.9 Data management and analysis

The data were collected, coded, entered into EpiData and exported to SPSS version 23 software for analysis. Prior to the analysis, the whole data were cleaned and the completeness of the data were checked. Errors related to inconsistency, were verified using cross tabulation and other data exploration methods such as, frequency count and percentage. Then the data were recorded, categorized and sorted to facilitate its analysis. Descriptive analysis was used to describe the medians and frequencies of the study variables. Bi-variable analysis was employed and those variables whose p -values less than or equals to 0.2 fitted in the forward multivariable logistic regression model. Odds ratio with 95% confidence intervals were used to determine the strength of association between dependent and independent variables. The significance of the study was presented by using adjust odds ration with 95% CI and p value less than 0.05.

5.10. Data quality assurance

The qualities of the data were assured by preparing the questionnaires carefully designed based on the literature. Pretest was conducted Goncha Siso Enese Woreda nearest Kebles equivalent to 5% of the sample size and appropriate modification was made on the questioners after viewing the pretest result. Data collectors and supervisors were given training for two days on how to use the questionnaire on interviewing, privacy, discipline and approach to respondents. The supervisors and principal investigator were closely followed and supervised the day to day data collection process and ensured completeness and consistency of the collect questionnaires daily and were given feedback in the next morning.

5.11. Ethical Consideration

Ethical clearance was obtained from the Bahirdar University Institutional Review Board (IRB), College of Medicine and Health science. Then officials at different levels in the study area were communicated through letters from Bahirdar University, College of Medicine and Health Science. Letters of permission was obtained from Enebsie Sarmider Woreda administrative and health office. Verbal informed consent was taken from each respondent prior to the interview after the purpose of the study was explained to them. At data collection, PTB suspects were advised to visit health facilities to relief their pain. Confidentiality of the information was assured and veracity, fidelity privacy and right of withdraw of the respondents were maintained.

6. RESULTS

6.1 Descriptive analysis

6.1.1 Socio-demographic characteristics adult pulmonary TB suspects

In this study from 1749 pulmonary TB suspects,1710 pulmonary TB suspects were voluntary to be interviewed while ten (10) declined to participate and the rest twenty-nine (29) were not at home after repeated visits, making the response rate of 97.77 %.

Regarding age categories of the respondents 840(49.1%) were 35-54 years. Nine hundred fifty (55.6%) PTB suspects were male. One thousand four hundred fifty-two (84.9%) PTB suspects were lived in rural and 1003 (58.7%) PTB suspects were married. Ethnicity and religion of PTB suspects were 100% Amhara and orthodox. (Table 1)

As to the educational background, 394(22.9%) were primary school. Among PTB suspects in this study, 1208 (70.6%) were farmer. (Table 1)

Table 2 Socio -demographic characteristics of adult pulmonary TB suspects in Enebsie sarmider woreda, East Gojjam, 2019

Characteristics		Number (n=1710)	Percent
Age	19-34	614	35.9
	35-54	840	49.1
	55 and above	256	15
Sex	Male	950	55.6
	Female	760	44.4
Residence	Urban	258	15.1
	Rural	1452	84.9
Marital statues	Single	534	31.2
	Married	1003	58.7
	Divorced	112	6.5
	Widowed	61	3.6
Educational status	Could not read and write	693	40.5
	Able to read and write	285	16.7

Occupation	Primary school	394	23
	Secondary school	226	13.2
	College and above	112	6.6
	Unemployed	47	2.8
	Farmer	1208	70.6
	Government employee	90	5.3
	Merchant	131	7.7
	Other (student, labor ...)*	234	13.6

* Unemployed includes those who do not have any kind of job

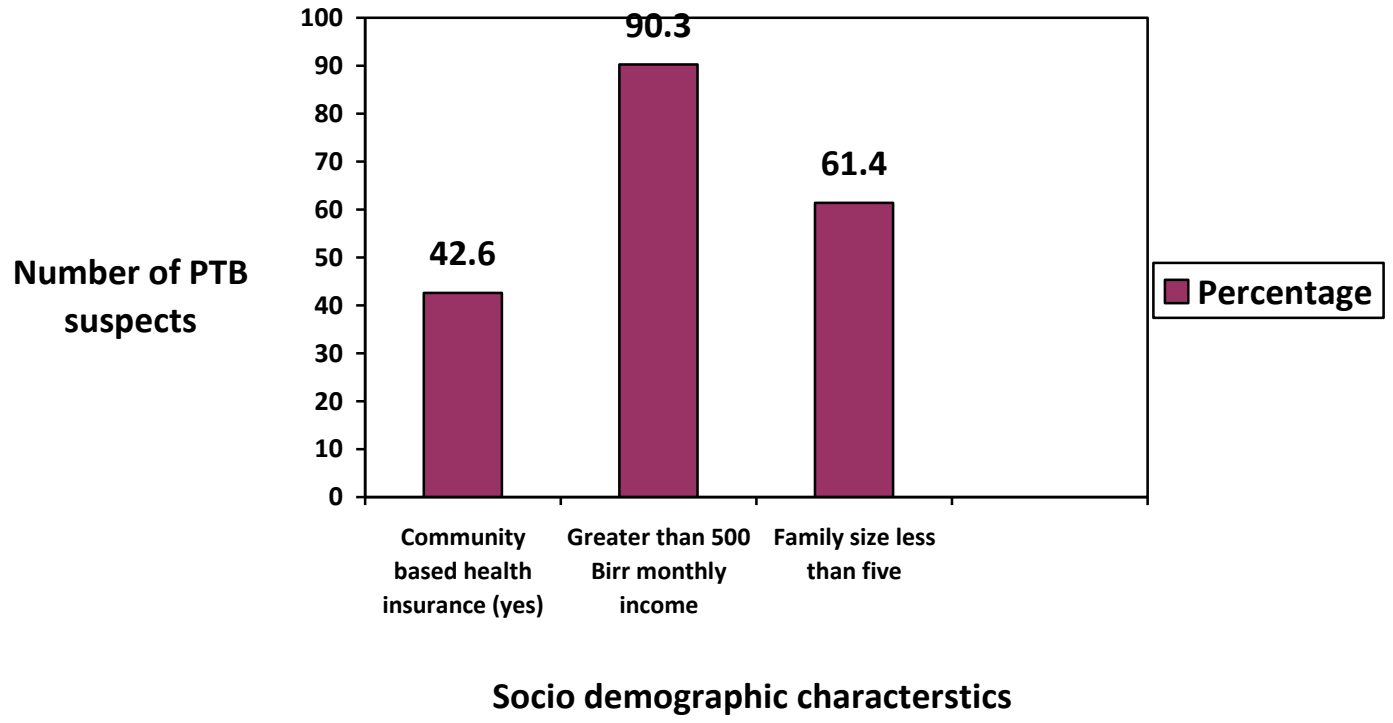

Figure 3 Socio demographic characteristics of PTB suspects in Enebsie Sarmider Woreda, 2019.

6.1.2 ILLNESS RELATED FACTORS

From 1710 respondents 75(4.4%) were pervious TB cases, 16(0.9%) were TB in the family and 22(1.3%) were friend who had TB. The major symptoms of PTB suspects experienced were night sweet 1323 (77.4%), fever 1272 (74.4%), dyspnea 1198 (70.1%), chest pain 817 (47.8%) and hemoptysis 356 (20.8%).

6.1.3 Perception of illness

Regarding perception of illness 473(27.7%) perceived their symptom as common cold, 384(22.5%)" Mitch/Giraffe", 332(19.4%) "Bird/Nefas, 214(12.5%) pneumonia, 152(8.9%) tuberculosis and 97(5.7%) PTB suspects were asthma. Fifty-eight (3.4%) perceived their symptom did not associate to any kind of illness.

6.1.4 Health seeking behaviors

In this study, the magnitude of health seeking behaviors among pulmonary tuberculosis suspects was 771(45.1%) with 95% confidence interval 43- 47% whereas the rest of PTBC suspects took some other kind of individual action which included but not limited to home treatment and traditional medicine. Of those 771 PTB suspects who had health seeking behaviors, 606(78.6%) PTB suspects first visited public health facilities and 165(21.4%) PTB suspects first visited private health facilities. Nine hundred thirty-nine (54.9%) PTB suspects did not have health seeking behavior. Of these, majority of pulmonary TB suspects 485(51.6%) were used Self-treatment with safe home remedies to relief from their pain. (Table 3)

Table 3. First visit taken by pulmonary tuberculosis suspects in Enebsie sarmider woreda, East Gojjam Zone, 2019

First visit to relief	Number(n=1710)	Percent
Public health facilities	606	35.4
Private health facilities	165	9.7
Self-treatment with safe home remedies	485	28.4
Bought drugs without prescription	65	3.8
Taken traditional medicine (herbs)	110	6.4
Went to "Holy water"	137	8.0
No action taken	142	8.3

Total	1710	100.0

Reasons for PTB suspects did not have health seeking behaviors

After the onset of symptoms, 939 (54.9%) did not have health seeking behavior. The main reason for it (266 PTB suspects, 28.3%) were long waiting time, 216(23.1%) did not trust by health professionals, 54(5.8%) health professional discipline problem and 198 (21%) were perceived less sever and143 (15.2%) can treat by home remedies and 62 (6.6%) work over load.

6.1.5 Knowledge of adult pulmonary TB suspects

Study participants were asked about their knowledge regarding to tuberculosis. One thousand fifty-one (61.5%) of pulmonary TB suspects had poor knowledge and the rest PTB suspects 659(38.5%) had good knowledge. One thousand three hundred (76%) PTB suspects were answer correct TB is infectious.

Table 4: Knowledge about TB among adult PTB suspects in the Enebsie sarmider woreda, East Gojjam, 2019

Characteristic		Number(n=1710)	Percentage
TB is infectious	Yes	1300	76
	No	410	24
Bacteria Causes of TB	Yes	1016	59.4
	No	694	40.6
Lung, bones and nodes affect by TB	Yes	854	49.9
	No	856	50.1
TB transmission by air born	Yes	900	52.6
	No	810	47.4
Sneezing bacteria areoles is the mode of transmission	Yes	854	50.1
	No	856	49.9
TB can transmit to Spouse , neighbor and family	Yes	803	47
	No	907	53
TB signs and symptoms	Yes	597	34.9
	No	1113	65.1
AFB test is TB diagnostic method	Yes	670	39.2
	No	1040	60.8

TB cured by first line TB drugs	Yes	819	47.9
	No	891	52.1
TB can reduced transmission by ventilation of rooms	Yes	593	34.7
	No	1117	65.3

6.1.6 Source of information

Study participants were asked about their source of information about TB. Six hundred Forty-nine (38.0%) got information for TB from health care providers, 400(23.4%) from health development army, 263(15.4%) from media, 241(14.1%) from friends, 71(4.2%) from cured clients, 67(3.9%) from stakeholders and 15(0.9%) from other sources. But 210(12.3%) did not have any information about TB from any sources.

6.1.7 Distance to health facility

One thousand three hundred twelve (76.7%) of adult pulmonary TB suspects were less than one hour and 398(23.3%) PTB suspects were greater than or equals to one hour consume to reach to health facility by commonly used transportation use

6.2 Bivariate and multivariate analysis

6.2.1 Factors Associated with Health Care Seeking Behavior among adult pulmonary TB suspects

Predictors for health seeking behaviors for TB were assessed using bi variable and multi variable logistic regression.

A total of 14 variables which have p value ≤ 0.2 were selected and entered to multivariable logistic regression model. Respondents' urban residence, educational status college and above and secondary school, member of community based health insurance, hemoptysis, good knowledge and duration of cough less than or equals one month were found to be statistical significantly associated with health seeking behavior for TB in multi variable logistic regression. (See Table 5)

The odds of health seeking behavior among urban residents PTB suspects were 3.54 times higher than those who were rural resident (AOR: 3.54, 95%CI: (2.08-6.02).

The odds of health seeking behavior among college educated and above PTB suspects were 5.20 times higher than those who could not read and write (AOR: 5.20, 95%CI: (2.61-10.34).

The odds of health seeking behavior among secondary school PTB suspects were 1.80 times higher than those who could not read and write (AOR: 1.80, 95% CI: (1.19-2.71).

The odds of health seeking behavior among a member of community based health insurance PTB suspects were 4.06 times higher than those who were not a member of community based health insurance (AOR: 4.06, 95%CI: (3.22-5.11).

The odds of health seeking behavior among had hemoptysis PTB suspects were 1.99 times higher than those who did not have hemoptysis (AOR: 1.99, 95%CI: (1.49-2.65).

The odds of health seeking behavior among participants with cough less than or equals to one month PTB suspects were 2.25times higher than those who had duration of cough greater than one month (AOR: 2.25, 95%CI:(1.74-2.92).

The odds of health seeking behavior among good knowledge for TB, PTB suspects were 2.78 times higher than those who had poor knowledge (AOR: 2.78, 95%CI :(2.14-3.62).

Table 5 Bivariate and multi -variate logistic regression analysis of the factors associated with health seeking behaviors among adult pulmonary tuberculosis suspects in Enebsie Ssarmider Wworeda, 2019

Variable	Category	Health seeking behaviors		Crude odds ratio with 95%CI	Adjusted odds ratio 95% Confidence interval
		Yes	No		
Residence	Rural	593(76.9%)	859(91.5%)	1.00	1.00
	Urban	178(23.1%)	80 (8.5%)	3.223(2.427-4.281)	3.54(2.08-6.02)***
Education	Could not read and Write	230(29.8%)	463(49.3%)	1.00	1.00
	Able to read and write	103(13.4%)	182(19.4%)	1.139(0.853-1.521)	0.95 (0.69-1.31)
	Primary school	207(26.8%)	187(19.9%)	2.228(1.730-2.870)	1.30(0.95-1.78)
	Secondary school	138(17.8%)	88(9.4%)	3.157(2.314-4.307)	1.80 (1.19-2.71)*
	College and above	93 (12.2%)	19(2%)	9.853(5.869-16.543)	5.20(2.61-10.34)***
Community based health insurance	No	321 (41.6%)	660(70.3%)	1.00	1.00
	Yes	450 (58.4%)	279(29.7%)	3.316(2.714-4.051)	4.06(3.22-5.11)***
Hemoptysis	No	540(70%)	814(86.7%)	1.00	1.00
	Yes	231(30%)	125(13.3%)	2.786(2.184-3.553)	1.99 (1.49-2.65)***
Cough duration	Greater than one month	539(69.9%)	698(74.3%)	1.00	1.00
	Less than	232(31.1%)	241(25.7%)	1.247(1.008-1.542)	2.25 (1.74-2.92)***

	or equals to one month				
Knowledge	Poor	341(44.2%)	710(75.6%)	1.00	1.00
	Good	430(55.8%)	229(24.4%)	3.910(3.182-4.803)	2.78(2.14-3.62)***

*= significantly associated with towards health seeking behaviors for TB when p value close to 0.05.

**= Significantly associated with towards health seeking behaviors for TB when p value close to 0.01.

***= Significantly associated with towards health seeking behaviors for TB when p value close to 0.001.

7. DISCUSSION

The magnitude of health seeking behaviors among pulmonary tuberculosis suspects was 771(45.1%) with 95% confidence interval 43- 47%. This finding was lower than lay Aremacho district study (20) and south west Ethiopia (Gilgal Gibe field research) study(12) in which the proportion of PTB suspects who had visited modern health facility were 60.91% and 53.8% respectively. Despite a relatively similar geographic location, significant variations have been observed between the Lay Aremacho and the current studies. Possible explanation for these discrepancies might be due to the fact that a number of factors including socio-economic, lack of information and the majority of the respondents take home remedy before visit modern health facility.

From those 1710 PTB suspects, 606(35.4%) PTB suspects first visited public health facilities which were lower than the study conducted Merawi, North West Ethiopia, 45% PTB suspects first visited public health facilities. This might be poor community awareness in the study area. One hundred sixty five (9.6%) PTB suspects first visited private health facilities in the study area, which was higher than Merawi district (7.5%)(21). This might be good access of private clinic in Enebsie sarmider district.

Residence of the participants was highly significant with health seeking behaviors for TB. According to this study, PTB suspects in urban residence were 3.54 times more likely to have health-seeking behavior for TB than rural residence PTB suspects. This is similar to the study conducted in Northwest Ethiopia (Felegehiwet hospital) (23). This might be due to urban PTB suspects were more awareness than rural PTB suspects.

In this study, educational status of college and above and secondary school were independent predictor for health seeking behaviors. PTB suspects whose educational status was college and above were 5.20 times more likely to seek health for TB than could not read and write PTB suspects. And PTB suspects whose educational status was secondary school were 1.80 times more likely to have health seeking behaviors for TB than could not read and write PTB suspects.

This is similar to the study conducted in Lay Aremacho district (20). This might be the better educated PTB suspects, who are aware of health problem, know more about the availability of health-care services, have higher chance of accessing health related information easily from various media and through their formal education and use this information more effectively to maintain or achieve good health status.

In this study, PTB suspects who were a member of community based health insurance were 4.06 times more likely to health seeking behavior for TB than PTB suspects who were not a member of community based health insurance. This is similar to the study conducted in Center of China, Wuhan city (25).This might be those with health insurance PTB suspects did not problem for the payment when visited health facilities.

PTB suspects who had Hemoptysis were1.99 times more likely to have health seeking behaviors for TB than PTB suspects who did not have hemoptysis. This is similar to study conducted in East China (26). This might be PTB suspects consider that individual who had hemoptysis were severely ill so first they should visit modern health facilities.

PTB suspects who had duration of cough less than or equals to one month were 2.25 times more likely to health seeking behaviors for TB than PTB suspects who had greater than one month cough duration. This is contrast to study conducted in Merawi district (21). This might be that PTB suspects who had long duration of cough might be practice first safe home remedies and other traditional action to relief their pain.

In this study good knowledge for TB was predictors for health seeking behaviors. PTB suspects who had good knowledge for TB were 2.78 times more likely to health seeking behavior for TB than PTB suspects who had poor knowledge. This is similar to study conducted Sibiu Sire District, East Wollega Zone (22).This might be those PTB suspects have good knowledge had good understanding about TB like signs and symptoms, access of health service for TB diagnostic and treatment and had low intention to other traditional methods.

8. LIMITATION

Recall bias and misreporting of events was likely.

9. CONCLUSION

The finding of the study confirmed the magnitude of health seeking behaviors among pulmonary tuberculosis suspects was 771(45.1%) with 95% confidence interval 43- 47%.Health seeking behavior among adult pulmonary TB suspect was significantly associated with educational level, knowledge, community based health insurance, hemoptysis, duration of cough and place of residence.

10. RECOMMENDATION

Woreda education and administrative office:

- Educations above secondary school strongly encouraged.
- Strength alternative youth educations.

Woreda health office, hospital, health centers and health posts

- Improve knowledge for TB the rural resident PTB suspects
- Improve knowledge for TB, PTB suspects
- As hemoptysis is predictors for health seeking behavior for PTB suspect, improve community awareness for signs and symptoms of PTB.
- Strengthen community to member for community based health insurance.
- Improve the availability of a simple and rapid diagnostic TB test for use at the lowest level of health care
- Develop the system of, collected sputum samples, fixed onto slide and transported to AFB diagnostic center by health extension workers to decrease PTB suspects live in the community long duration of cough without health seeking behavior.

11. REFERENCES

1. Democratic F, Of R, Health MOF, Ababa A. FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA MINISTRY OF HEALTH NATIONAL COMPREHENSIVE TUBERCULOSIS , LEPROSY AND TB / HIV TRAINING MANUAL for HEALTH CARE WORKERS . PARTICIPANTS ' MANUAL 2016;(March).
2. Democratic F, Of R, Health MOF, Ababa A.National training on management of Tuberculosis in Children . 2015;(December).
3 Democratic F, Of R, Health MOF, Ababa A.GUIDELINES FOR CLINICAL AND PROGRAMMATIC MANAGEMENT OF TB , TB / HIV AND LEPROSY IN ETHIOPIA SIXTH EDITION 2016;(January).
4 World vision W. Technical Guideline for Tuberculosis (TB) and TB-HIV Program Implementation WORLD VISION 2017. 2017;1–28.
5. Croyle RT. Theory at a Glance: Application to Health Promotion and Health Behavior (Second Edition). U.S. Department of Health and Human Services, National Institutes of Health, 2005. Available at www.thecommunityguide.org.
6. Subhadra Pranavi SV V., Murugan V, Kalaiselvan G. Health seeking behavior and reasons for "patient-related" diagnostic delay among pulmonary tuberculosis suspects attending designated microscopy centre of medical college in rural Puducherry. Int J Community Med Public Heal [Internet]. 2017;4(4):1314. Available from: http://www.ijcmph.com/index.php/ijcmph/article/view/1101
7. Enebsie sarmider District Health Office Annual Report Mertulemariam. 2010;
8 . Rondall R. Sahil A.As Ethiopia moves toward tuberculosies elimination, success require higher investement ,vol91,Csis Global Health Policy Center 2017,399-404p
9. Persons M. Operational Guide Find and Treat all Missing Persons with TB To eliminate TB.
10 WHO.Systematic screening for active tuberculosis,2015.
11. WHO. TBreport2017.
12. Abebe G, Deribew A, Apers L, Woldemichael K, Shiffa J. Knowledge , Health Seeking Behavior and Perceived Stigma towards Knowledge , Health Seeking Behavior and Perceived Stigma towards Tuberculosis among Tuberculosis Suspects in a Rural Community in Southwest Ethiopia. 2014;(May).

13 Werf V Der. HEALTH CARE SEEKING BEHAVIOUR FOR TUBERCULOSIS SYMPTOMS IN KIEV CITY , UKRAINE (2006). 2006;

14. Kumar R. Socio-demographic Determinants of Treatment-Seeking Behavior among Chest Symptomatics. 2015;

15. Fochsen G, Deshpande K, Diwan V, Mishra A, Diwan VK, Thorson A. Health care seeking among individuals with cough and tuberculosis : a population-based study from rural India. 2006;10(November 2005):995–1000.

16. Hoa NB, Tiemersma EW, Sy DN, Nhung N V., Vree M, Borgdorff MW, et al. Health-seeking behaviour among adults with prolonged cough in Vietnam. Trop Med Int Heal. 2011;16(10):1260–7.

17. Kasse Y, Jasseh M, Corrah T, Donkor SA, Antonnio M, Jallow A, et al. tuberculosis case finding in Gambians with cough. 2006;(February).

18. Buregyeya E, Kulane A, Colebunders R, Wajja A, Kiguli J, Mayanja H, et al. Tuberculosis knowledge , attitudes and health-seeking behaviour in rural Uganda. 2011;15(April 2010):938–42.

19. Belay M, Bjune G, .Ameni G, Abebe F. Diagnostic and treatment delay among Tuberculosis patients in Afar Region , Ethiopia : A cross-sectional study. BMC Public Health [Internet]. 2012;12(1):1. Available from: BMC Public Health

20 Engeda EH, Dachew BA, Woreta HK, Kelkay MM, Ashenafie TD. Health Seeking Behaviour and Associated Factors among Pulmonary Tuberculosis Suspects in Lay Armachiho District , Northwest Ethiopia : A Community-Based Study. 2016;2016.

21. Yimer S, Holm-hansen C, Yimaldu T, Bjune G. Health care seeking among pulmonary tuberculosis suspects and patients in rural Ethiopia : a community-based study. 2009;9:1–9.

22. Yohannes A. Original Article of Treatment Seeking Intention Among People With Cough in East Wollega , Ethiopia Based on the Theory of Planned Behavior : a Community Based Cross-Sectional Study. 2009;(3).

23 Yimer SA, Bjune GA, Holm-hansen C. Time to first consultation , diagnosis and treatment of TB among patients attending a referral hospital in Northwest , Ethiopia. 2014;

24. Gebeyehu E, Azage M, Abeje G. Factors Associated with Patient ' s Delay in Tuberculosis Treatment in Bahir Dar City Administration , Northwest Ethiopia. 2014;2014.

25. Duan, Qiong-hongWang, PengLv, JingZhong, Rong Wang, Wei-hua. Health care seeking among pulmonary tuberculosis suspects in Wuhan: A community-based study2013; 5: 273-278
26. Li X, Jiang S, Li X, Mei J, Zhong Q, Xu W, et al. Predictors on Delay of Initial Health-Seeking in New Pulmonary Tuberculosis Cases among Migrants Population in East China Predictors on Delay of Initial Health-Seeking in New Pulmonary Tuberculosis Cases among Migrants Population in East China. 2012;(July 2014).
27. Sahar Shaker Soliman.Diagnostic and treatement delay in Tuberculosis.WHO-EM/TDR/009/E.2006;.
28. Khaled Abu Rumman,Nadia Abu Sabra Faries Bakri,Akihiro Scita,and Amal Bassili.prevalance of Tuberculosies suspects and their health care seeking behavior in urban and rural Joredan.American society of Tropical medicine and hygene ,2008,pp.545-551.

12. APPENDIX'S

12.1 QUESTIONAIRE

This questionnaire is prepared for collecting information on assessment of health seeking behavior and associated factors among adult pulmonary TB suspects.

Introduction

Greetings

My name is---------- I am working as student data collector in a survey who is doing a research for the partial fulfillment of masters' degree in public health in Field Epidemiology at Bahirdar University. This questionnaire is intended to on assessment of health seeking behavior and associated factors among adult pulmonary TB suspects. You are selected to be one of the participants in the study.

PURPOSE: purpose of the project is to asses' health seeking behavior and associated factors among adult pulmonary TB suspects. The information you provide here will be very helpful to the investigator of this study to write a research paper for the requirement in completion of master's program. Duration of the study: March 27/ 2019 – April 27/ 2019.

Procedures: There are questions that assess health seeking behavior and associated factors among adult pulmonary TB suspects. I would like to ask you to give your genuine and honest answers on the question forwarded. If you need clarification, please ask me. It will take about 15 minutes to finish this survey.

Benefit and risk: by participating in this study and answering our question, you will not receive any direct benefit. However, the information will help the researcher to understand health seeking behavior and associated factors among adult pulmonary TB suspects and used appropriately identify future intervention related to problem to be found. Your participation in this study will not involve any risk. If a question makes you feel uncomfortable; you may choose not to answer.

Confidentiality: you will not be asked your name on to be written the survey question. All the information you give to us will be kept private. Whatever information you provide will be kept strictly confidential. Only the research will have access to see the answers you give. No information identifying you will ever be related to anyone outside of this data collection activity.

Participation: participation in the survey is completely voluntarily if you are not comfortable in answering any question (S), you can leave it blank. You can stop filling out the questionnaire at

any without giving a reason and your relationship with the community or any other body will not be affected in any way.

If you would like to know more, please contact:

Address of the principal investigators name Fentahun Alebie Phone number 0913664557

I thank you in advance for taking your time to answer questions.

Would you be willing to participate in the study? If no please stop here, if yes, I am in advance to ask you

Respondent no------

-

QUESTIONNAIRE

Prepared for collecting information on health seeking behavior and associated factors among adult pulmonary TB suspects.

Name of data collector---------- Signature---------- Date-----

Part I: Socio Demographic Characteristics

101. Age of pulmonary TB suspect?	----------years	
102. Sex of pulmonary TB suspect?	1. Male 2. Female	
103. Religion of pulmonary TB suspect? .	1. Orthodox 2. Muslim 3. Protestant 4. Others	
104. Ethnicity of TB suspect?	1.Amhara 2.Oromia 3.Tigeray 4.Others	
105. Place of residence?	1 Urban 2.Rural	
106. What is your present marital status?	1.Single 2. Married 3. Divorced 4. Widowed	
107. What is your educational level?	1.Do not able to read and write 2. Able to read and write 3. Primary education 4. Secondary education	

	5.Collage and above	
108. Occupations of pulmonary TB suspect?	1.unemployed 2. Farmer 3. Government employee 4.Marechant 5. Others	
109. What is your family monthly income?	---------- birr	
110. Number of household members?	----------in number	
111 Are you a member of community based health insurance?	1.Yes 2. No	

Part II: Health Seeking Behaviors and Perceived health statues

201. What do you think your illness ?	1.Common cold 2.“Bird” or “Nefas” 3. Mitch or” Gerefate” 4. Pneumonia 5. Asthma 6.Pulmonarytuberculosis 7. No disease	
202. Did you go to Modern health facility as the first choice to get relief from your presenting symptoms?	1. Yes 2. No	
203. If the answer of number 203 is No, why you did not go to Modern health facility as the first choice to get relief from your presenting symptoms/ illness?	1.Not perceive by health workers or health professionals 2. less belief in modern medicine 3.Not discipline worker at health facility 4. Long waiting time in the facility 5. others	
204 Where did you go to seeking health after getting first recognition of illness or symptoms?	1.Visited health post 2. Visited health center 3. Visited hospital 4. Visited private clinic	

	5. Self-treatment with safe home remedies 6. Bought drugs without prescription 7.Taken traditional medicine (herbs) 8. Went to "Holy water" 9. No action taken	

part III: Illness related factors

301. Did you have Hemoptysis?	1. Yes 2. No	
302. Did you have previously TB ?	1. Yes 2. No	
303. Is there any family member having pulmonary tuberculosis?	1. Yes 2. No	
304. Is there any close contact friends or relatives who had pulmonary tuberculosis?	1. Yes 2. No	
305. Do you have chest pain?	1. Yes 2. No	
306. Do you have Dyspnea?	1. Yes 2. No	
307.Do you have nigh sweeting	1. Yes 2. No	
308.Do you have fever	1. Yes 2. No	

309. Duration of cough?	1. Greater than 30 days (one month) 2. Less than or equals to 30 days(one month)	

Part IV. Knowledge of the suspect about tuberculosis

401. What is tuberculosis?	1.Contagious 2.Genetic/heterogeneous 3. Spirit of ghost 5.Others(specify)-----	
402. What is the cause of tuberculosis?	1.Bacteria 2. Virus 3. Smoking 4. Traumatism 5. Others(specify)-----	
403. What part of the human body where tuberculosis is infected?	1. Lung fields 2. Bone 3. Lymph node 4. All part of the body 5.Others (specify)-----	
404. What is the root of transmission?	1.Blood 2. Digestive tract 3. Airway 4. Skin 5.Others(specify)------	
405. Mode of TB transmission	1.After sneezing bacilli aerosols transmit from person to person 2.blood contact 3. others	

406. If parents got TB and untreated, people who have the chance to get infection from him/her?	1.Spouse 2. Family 3. Neighbor 4. All the above	
407. What is the most important sign of pulmonary tuberculosis?	1.Haemoptysies 2. Chest pain 3.Dyspnea 4. Chronic cough more than or equals to 2 weeks 5 all 6 other (specify) -------	
408. Which one of the following is the most useful method to detect tuberculosis?	1. Sputum examination 2. Tuberculin skin test 3. Blood test 4. Urine test 5. other (specify)----	
409. Tuberculosis can be cured by?	1. Traditional Medicine 2. Anti TB drugs combination 3. other(specify) ---	
410. which methods reduced tuberculosis transmission	1. ventilation of rooms 2.live together with untreated TB cases 3. overcrowded home 4.all 5 other (specify)--	

Part V: Source of information

501. Where did you get the information about tuberculosis? (Can answer more than one)	1. Mass media 2.Health Facility center staffs 3.Volunteer health support group or HDA 4. stakeholders 5.TB cured patients 6.Freinds 7. no information 8. Others	

6. Distance to modern health facility

6.1 How much time spent to reach health facility by common transportation system	1 less than one hour 2 more and equals to one hour	

ቃለ መጠየቅ

ቃለ መጠየቁ የተዘጋጀዉየቲቢ በሽታ ምልክት ያለባቸዉ ሰዎች ስለቲቢ የህክምና መሻት ባህሪያት እና ተዛማጅ ምክንያቶችን ለማወቅ ነው።

መግቢያ

ሠላምታ

ስሜ----------ስባል በባህርዳር ዩንቨርስቲ በፊልድ ኢፕድሞሎጂ የትምህርት መስክ ለሚስረው የቲቢ በሽታ ምልክት ያለባቸዉ ሰዎች ስለቲቢ የህክምና መሻት ባህሪያት እና ተዛማጅ ምክንያቶችን ለመስራት የመጣሁ ነኝ ።እርስዎ ለጥንቱ ተመርጠዋል።

ተግባር: የጥንቱ ተግባር የቲቢ በሽታ ምልክት ያለባቸዉ ሰዎች ስለቲቢ የህክምና መሻት ባህሪያት እና ተዛማጅ ምክንያቶችን ነው።የእርሰዎ መረጃ በባህርዳር ዩንቨርስቲ በፊልድ ኢፕድሞሎጂ የትምህርት መስክ መጋቢት27/2019- ሚያዝያ 27/ 2019. እ.ኤ ለሚሰራው ጥናት የሚጠቅም ነው።

አካሄድ: የቲቢ በሽታ ምልክት ያለባቸዉ ሰዎች ስለቲቢ የህክምና መሻት ባህሪያት እና ተዛማጅ ምክንያቶችን ያካተተ ጥያቄዎች ያሉት ሲሆን፤እርሰዎ በትክክል እና በታማኝነት ጥያዌዎችን ይመልሱ።ለግልፅነት ጥያቄ መጠየቅ ይችላሉ።.ጥያቄው 15 ደቂቃ ሊፈጅ ይችላል ።

ጥቅም እና ጉዳት: ለጥያቄ እና መልሱ ስለተባብሩ ቀጥታ የሚያገኙት ነገር ባይኖርም በሰጡት መረጃ መሰረት የቲቢ በሽታ ምልክት ያለባቸዉ ሰዎች ስለቲቢ የህክምና መሻት ባህሪያት እና ተዛማጅ ምክንያቶችን በመለየት አስፈላጊውን እርምጃ ለመውሰድ ይመቻል። እርሰዎ በዚህ ጥናት በመሳተፈዎ የሚደርስበዎ ጉዳት የለም።

ሚስጥራዊነቱ: ስምዎን ከጥያቄው እንዲፅፉ አልተጠየቁም፡፤የሰጡን መረጃ በሙሉ ሚስጥራዊነቱ የተጠበቀ ነው።.የጥናቱ ባለቤት ብቻ መረጃው ሲያስፈልገው የሚጠቀምበት ነው።

ተሳትፎ፡ተሳትፈዎ በፍቃደኝነት የተመሰረተ ሲሆን፤በየትኛውም ግዜ ካልተስማሙ ማቃረጥ ይችላሉ።. ለበለጠ መረጃ፡ ፈንታሁን አለቤ (0913664557) ማግኘት ይችላሉ።

ስለቆይታዎ እና ስለተሳትፈዎ እጅግ እናመሰግናለሁ።

መጠየቂያ -አንድ

የተጠያቂ ቁጥር----------

የቲቢ በሽታ ምልክት ያለባቸዉ ሰዎች ስለቲቢ የህክምና መሻት ባህሪያት እና ተዛማጅ ምክንያቶችን ለማወቅ የተዘጋጀ ቃለ-መጠየቅ

የመረጃ ሰብሳቢ ሙሉ ስም----------ፊርማ----------ቀን----------

ክፍል አንድ የቤተሰብ እና ማህበራዊ ጥያቄዎች

ተ.ቁ	ጥያቄ
101	እድሚዎ ስንት ነዉ?_____
102	ተጠያቂ ጾታ? 1. ወንድ 2. ሴት
103	ሀይማኖትዎ ምንድን ነዉ? 1.ኦርቶዶክስ 2. ሙስሊም 3.ፕሮቴስታንት 4. ሌሎች (ይዘርዘር)----------
104	ብሄርዎ ምንድን ነዉ? 1. አማራ 2. ኦሮሞ 3. ትግሬ 4.ሌሎች(ይዘርዘር)----
105	የሚኖሩበት ቦታ 1. ከተማ 2. ገጠር
106	አሁን ያለዎት የጋብቻ ሁኔታ ምን ይመስላል? 1. አግብቶ የማያውቅ 2. ያገባ 3. የተፋታ 4. የሞተባት/በት
107	የትምህረት ሁኔታዎ ምን ይመስላል? 1. መጻፍና ማንበብ አልችልም 2. መጻፍና ማንበብ እችላለሁ 3.እንደኛ ደረጃ ጨርሻሉ 4. ሁለተኛ ደረጃ ጨርሻለሁ 5. ኮሌጅ እና ከዚያ በላይ
108	ስራዎ ምንድ ነው? 1.ያልተቀጠረ 2. አርሶ አደር 3. የመንግስት ተቀጣሪ 4. ነጋዴ

	5. ሌላ
109	የቤተሰብዎ ወራዊ ገቢ ስንት ነው?_____ብር
110	የቤተሰብዎ ብዛት?_____
111	የጤና መድን አባል ነዎት? 1. አዎ 2. የለም

ክፍል 2 የጤና መሻት እና ስለ ጤና ሁኔታ ያለዉ/ላት እይታ

201	ምን አመመኝ ብለዉ ያስባሉ? 1. ጉንፋን 2. ብርድ/ንፋስ 3.ምች/ግርፋት 4. የሳንባ ምች 5. አስም 6.ቲቢ 7. በሽታ የለብኝም 8. ሌሎች
202.	ህመመዎን ለማስታገስ መጀመርያ ዘመናዊ የህክምናንአገልገሎት ሂደዉ ተጠቀሙ ? 1. አዎ 2.የለም
203.	202 ጥያቄ መልስ አይደለም ከሆነ፣ ህመም ሲሰማዎ ለምን መጀመርያወደ ዘመናዊ የህክምና ጤና ተቋም አልሄዱም? 1. በባለሙያዎች እምነት ስለሌለኝ 2. የቆይታ ጊዛዉ እረጅም ስለሆነ ነዉ 3.የባለሙያዎች የስነመግባር ችግር መኖሩ 4. ሌሎች
204.	የህመም ስሜት/ምልክት ካዩ በኋላ ወደየትኛዉ የጤና አማራጭ ሄዱ? 1. ጤና ኬላ 2. ጤና ጣቢያ 3. ሆስፒታል 4. የግል ጤና ተቋማት 5. የቤት ዉስጥ ህክምና 6. ያለ ሃኪም ትዛዝ መድሃኒት ገዝቶ መዉሰድ

	7. ባህላዊ ህክምና 8. ጸበል 9.የትም አልሄድኩም

ክፍል ሶስት ፡-ከህመሙ ጋር የተያያዙ መንስኤዎች

301.	ደም የቀላቀለ አክታ አለበዎት? 1. አዎ 2 የለም
302.	ከዚህ ቀደም የቲቢ ህክምና ወስደዋል? 1. አዎ 2 .የለም
303.	ከቤተሰብዎ ውስጥ ቲቢ ያለበት አለ? 1. አዎ 2 የለም
304.	ከቅርብ ጓደኛዎት ቲቢ ያለበት አለ? 1. አዎ 2 የለም
305.	የደረት ኪጋት አለበዎት? 1. አዎ 2 የለም
306	የትንፋሽ መቆራረጥ አለበዎት? 1. አዎ 2 የለም
307	ሌሊት ሌሊት ላብ አለበዎት? 1. አዎ 2 የለም
308	የሙቀት መጨመር አለበዎት? 1. አዎ 2 የለም
309.	የሳል ቆይታ ጊዜዉ ስንት ነዉ? 1. ---------ቀን 2. ---------ወር3.----------አመት

ክፍል አራት የቲቢ ተጠርጣሪው እዉቀት

401. ቲቢ ማለት ምን ማለት ነዉ? 1. ተላላፊ በሽታ 2. በዘር የሚተላለፍ በሽታ 3 .በፈጣሪ ቁጣ የሚመጣ በሽታ 4. ሌሎች/ግለጽ/----------
402. የቲቢ መንስኤ ምንድን ነዉ? 1.ባክቴሪያ 2. ቫይረስ 3. ማጨስ 4. የአካል መጎዳት 5. ሌሎች/ግለጽ/----------
403. ቲቢ የሚጠቃ ትኛውን የሰውነት ክፍል ነው ? 1. ሳንባ 2. አጥንት 3. እጢዎች 4. ሁሉም 5.ሌሎች/ግለጽ/---------
404. ቲቢ የሚተላለፍባቸዉ ክፍሎች ? 1. በደም 2. በምግብ መፍጫ ቱቦ 3. በአየር 4. በቆዳ 5.ሌሎች/ግለጽ/---------
405. የቲቢ ህመም ወደሌሎች በምን አማካኝነት ይተላለፋል? 1.ሲያስነጥስ ከበሽተኛው ወደ ጤነኛው ይተላለፋል

2. በደም ንክኪ ይተላለፋል 3 ሌሎች/ግለጽ/----------
406. የቲቢ ህሙማን ባሸታዉን የሚያሰተላልፉት ? 1. ለሚስት 2. ለቤተሰብ 3. ለጎረቢት 4. ሁሉም
407. ዋና ዋና የቲቢ ምልክቶች ምንድን ናቸዉ? 1. ደም የቀላቀለ አክታ 2. የደረት ዉጋት 3. የትንፋሽ መቆራረጥ 4. ሁለት ሳምንት እና ከዚያ በላይ የቆየ ሳል 5, ሁሉም 6. ሌላ ካለ ግለጥ
408. ቲቢን ለማዎቅ የምንጠቀምነት ስልት ምንድን ነዉ? 1. የአክታ ምርመራ 2. የቆዳ ምርመራ 3. የደም ምርመራ 4. የሽንት ምርመራ 6 .ሌላ ካለ ግለጥ
409. ቲቢ በምን ይድናል ? 1ባ.ህላዊ መድሃኒት በመዉሰድ ነዉ 2 የቲቢ መድሃኒት በመዉሰድ ነው 3. ሌሎች
410. የቲቢ በሽታን የምንከላከልበት መንገድ? 1 መስኮቶችን መከፋፈት 2. የልታከመ የሳንባ ቲቢ ለበት ሰው ጋር አብሮ መኖር 3.የተፋፈገ ቤት ውስት መኖር 4 .ሁሉም 5. ሌሎች

ክፍል አምስት የመረጃ ምንጭ

501. ስለቲቢ መረጃ ከየት ነዉ ያገኙ(ከአንድ በላይ መልስ ይቻላል)? 1. ከሚዲያ 2. ከጤና ባለሙያ 3. ከበጎ ፈቃድ ሰራተኛ 4. ከአጋር አካላት 5. ታመዉ ከዳኑ ቲቢ ህሙማን 6. ከጓደኛ

7. እዉቅና የለኝም	8. ሌሎች/ ግለጽ/

ክፍል ስድስት፡የጤና ተቓማት ያላቸዉ ርቀት

601.ዘመናዊ ህክምና ለመድረስ የሚፈጀዉ ግዜ

1.ከአንድ ሰዓት በታች

2. አንድ ሰዓት እና ከዝያ በላይ

12.2 Declaration

I, the undersigned, senior MPH student declare that this thesis is my original work in partial fulfillment of the requirement for the degree of Master of Public Health in Field Epidemiology.

Name: Fentahun Alebie Alemayehu

Signature: _____

Date: ----------

Place of submission:

College of Medicine and Health Science School of Public Health, Department of Epidemiology and Biostatistics, Ethiopian Field Epidemiology Training Program (EFETP), Bahirdar University

This thesis work has been submitted for examination with my/our approval as university advisor(s).

Advisors:

1. Prefessor Getu Degu signature ---------- date ---------- advisor
2. Kassawmar Angaw signature ---------- date---------- advisore