

Predictors of treatment seeking Intention among Tuberculosis suspect adults in Sibu Sire District, East Wollega Zone, Oromia Regional State.

Using The Theory of Planned Behavior.

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A Research paper submitted to College of Public Health and Medical Science in Partial Fulfillment for the Requirements of Masters of Public Health in Health Education and Health Promotion (MPH/HEHP).

February 24, 2016

JIMMA, ETHIOPIA

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Abstract

Background: *Tuberculosis is among the leading causes of mortality and morbidity in Ethiopia. Ethiopia ranked seventh among countries with highest Tuberculosis burden in the world. Delayed presentation and low treatment seeking behavior are the major problem contributing to the high burden and transmission of tuberculosis in most developing countries. Delay between the onsets of Tuberculosis symptoms, patients' first visit to health center, and diagnosis and treatment persist and contribute to prolonged spread of the tuberculosis Bacilli in the community.*

Objective: *The objective of this study is to determine the behavioral intention of treatment seeking from health facility by tuberculosis Suspect Adults in Sibulire district, East Wollega Zone.*

Method: *A community based cross-sectional study design, supplemented with qualitative study was conducted on to identify Predictors of treatment seeking intention among Tuberculosis Suspect adults in Sibulire district East Wollega Zone. The theory of planned behavior was used as a conceptual framework for the study. A simple random sampling technique was used to select kebeles (clusters) from Sibulire district. Eighteen kebeles (clusters) were included in the study, from these 18 kebeles (clusters) a total of 763 Tuberculosis suspect adults were interviewed for quantitative study and fourteen Health care providers who were work on directly observed treatment short course program at a health center as well as at health post were used for in-depth interview. The data were conducted by trained individuals who could speak and write Afan Oromo and supervised by principal investigator and other trained supervisors. The data were collected by face-to-face interviews technique using a structured questionnaire containing closed-ended questions and analysis was done using SPSS for windows program version 16.0. The aim of including qualitative data with quantitative study is for triangulation of the finding. Step wise regression analysis was used to identify important predictors of treatment seeking intention. Thematic analysis was used to analyze qualitative data.*

Results: *There were 763 study participants which give response rate of 90.4%. Respondents' place of residence, family monthly income, current smokers and knowledge on TB were found to have significant relationship and association with TB treatment seeking intention. Besides, respondents' external variables explained 29.5% of the variability in TB treatment seeking intention. The potential direct predictors of TPB; attitude, subjective norm and perceived behavioural control, behavioral beliefs and control beliefs together explained 28.4% of the variability of treatment seeking intention, of which the highest share was due to attitude, 17%. Generally, the TPB variables jointly with external variables explained 57.9% of the variability of treatment seeking intention among TB suspected individuals.*

Conclusion and recommendation: *TB suspected individuals of sibulire woreda have a high intention to visit health facilities; therefore we have to target and work on the beliefs identified in this finding to actualize the desired behavioral change in the community. Besides, concerned health bodies of the district should create facilitating conditions to TB suspected individuals to realize their high intention of visiting health facilities into real practice.*

Acknowledgement

First and foremost, my heart-felt gratefulness goes to the Almighty God, the one who has no end for answering my prayers in many ways and blessing me with the abilities that have enabled me to achieve this thesis.

Next, I wish to express my profound appreciation to my Advisors, Mr. Dejene Tilahun (MPH), Mr. Zewdie Birhanu (MPH) and Ms.Tsion Assefa (MPH) for their contribution to the conduct of this research thesis. In their intellectual guidance, support, constructive comments while I was conducting this research thesis.

I would also like to extend my thanks to department of Health Education and Behavioural science, College of Public Health and Medical Science of Jimma University for arranging this opportunity to carry out this research thesis.

Last but certainly not least, I express my gratitude to my parents, my fellow friends who provided me advice and support. I would like to pass thanks to my study participants for their voluntary and full participation in the data collection process, as well my thanks goes to all individuals who had contributed their share during data collection and in the process of this study.

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Acronyms

AFB	Acid Fast Bacillus
AIDS	Acquired Immune Deficiency Syndrome
BCG	Bacillus Calmet Guerin
DOTS	Directly Observed Treatment Short course
HBC	High-Burden Countries
HCF	Health Care Facilities
HEWs	Health Extension Workers
HIV	Human Immuno Deficiency virus
MDR-TB	Multi Drug Resistance tuberculosis
MDG	Millennium development goals
MOH	Ministry of Health
PTB	Pulmonary Tuberculosis
SPSS	Statistical package for social science studies
SRS	Simple random sampling
TBL	Tuberculosis and leprosy
TLCP	The TB and Leprosy Diseases prevention and control programme (TLCP)
TPB	Theory of planned behavior
TRA	Theory of reasoned action
WHO	World Health Organization

CHAPTER ONE: INTRODUCTION

Back Ground Information

Tuberculosis (TB) is a chronic infectious disease caused by bacteria (germs) called *Mycobacterium tuberculosis*, which is spread through the air when a person who has TB coughs sneezes or breathes. TB can occur anywhere in the body, but only TB in the lung can infect other people. Those individuals who develop TB disease shows clinical manifestation of TB such as symptoms of pulmonary tuberculosis which includes persistent productive or non productive cough for two weeks or more, chest pain, bloodstained sputum or hemoptysis (1) and the general symptoms (weight loss, malaise, fatigue, fever and night sweating) and the symptoms of extra pulmonary tuberculosis disease depend on the part of the body affected (2).

Tuberculosis (TB), a disease of ancient time as revealed by DNA analysis of tissue samples from mummified bodies and skeletal remains of more than 5,000 years, is still a public-health problem. It is one of the most important yet neglected international health priorities (3, 4).

Despite a history of remarkable scientific achievements in microbiology and therapeutics, tuberculosis (TB) continues to pose an extraordinary threat to human health. Case finding and treatment of TB disease are the principal means of controlling transmission and reducing incidence (5). Globally, there were 9.4 million new TB cases in 2008 (3.6 million of whom are women) including 1.4 million cases among people living with HIV. Ninety five percent of the cases are in developing countries (6). Among the 15 countries with the highest estimated TB incidence rates, 13 are in Africa which accounts for 31% of the global total (7).

Ethiopia ranks 7th among the 22 countries with the highest tuberculosis (TB) burden in the world. With estimated annual incidence of 168 cases per 100,000 population for smear positive tuberculosis, 378 cases per 100,000 populations for all forms of TB and 1.6% new cases MDR-TB(8).

In rich countries, the socioeconomic improvements and widespread application of chemotherapy have reduced tuberculosis to a manageable level (9). Whereas in many poor countries there is a greater risk of being infected with tuberculosis because people live and work in circumstances where uncured, infectious patients most often are found therefore they are more likely to become ill, once infected, due to malnutrition and other diseases that comprise their immune status (10).

Despite the increase in funding for TB control that has occurred over the past eight years, large funding gaps remain. To close these funding gaps, additional resources will need to be mobilized from domestic sources as well as donors. This will be a major challenge in the context of a global financial crisis (11). Implementation of DOTs has been a 'breakthrough' in the control of tuberculosis. In many countries, it has become the cornerstone in the treatment of tuberculosis. Thirty six million people were cured in DOTs programmes (between 1995- 2008), with as many as 8 million deaths averted through DOTs (12).

The expanded scope of the new strategy for Tuberculosis control in high HIV prevalence population comprises intervention against tuberculosis and intervention against HIV. The TB and leprosy Disease prevention and control programme (TLCP), was reorganized in 1994 with a view to integrate TB and leprosy control activities in Ethiopia. With the major objectives of TLCP includes interrupt transmission of infection of TB and to reduce morbidity, mortality and disability associated with TB using the basic strategies to achieve early case detection. There exist similar structure to coordinate, prevent and control of TB and leprosy at Regional, Zonal and Woreda level. The target and component of TBL and TB/HIV strategic planning and management 2007/8-2009/10 are in line with the contents of the stop TB strategy, launched in 2006 by WHO (13).

Ethiopia has tremendously increased health service coverage to 89.6% in 2009/10 and recent data shows significant possible progress in relation to TB. Currently, health service extension workers provide preventive services, including the detection and referral of persons with TB symptoms. The referred TB suspects could not like to pass through the normal routine administrative process of the health facilities whereas he/she has got reception by focal person of TB clinics at a health center then screen and requested for sputum examination(14,15).

Promotion of early treatment seeking given now a days is not satisfactory. Although understanding of TB suspect's Adult intention to treatment has great benefit on tuberculosis prevention and control program as well as to increase case detection rate of tuberculosis, it is not yet researched in community based study in Ethiopia. So, this study is expected to answer predictors of treatment seeking intention and other external variables which have a significant role in predicting TB suspected adults intention to seek treatment. Thus the conceptual frame work of the study is adapted from the theory of planned behavior (16).

Statement of the problem

Tuberculosis is still a major cause of death world wide (13); More than 2 billion people, equal to one-third of the world's population, are infected with TB bacilli. 1 in 10 people infected with TB bacilli will become sick with active TB in their lifetime. If not treated, each person with active TB infects on average 10 to 15 people every year (17).

Each year 1.7 million people die of TB (19). Generally, in the world Someone gets sick from TB every 4 seconds, someone dies of TB every 10 seconds, and everyday more than 23,000 people develop active TB and More than 5,000 people die from TB (18).

Not less than 90% of global TB cases & death occur in the developing world. Where 75% of cases are in the most economically productive & social reproductive age group 15-54 years (18). As a result, the tuberculosis problem not only has begun to worsen but also poses' medical, social and economic threat, to the developing countries (19).

Tragically, though, the disease is still so prevalent that, in 1993, 111 years after the causative organism was identified and half a century after the introduction of effective therapy, the World Health Organization (WHO) declared a state of global emergency for tuberculosis (TB), due to the steady increase of the disease worldwide (20).

In 2004 WHO has estimated that every disease will change in their rank order by measuring of disease burden for world leading since 1990 up to 2020 but TB will still own its seventh rank up to 2020 as baseline scenario measured in disability- adjusted life years (DALYs) (21).

Although the direct costs of diagnosis and treatment are significant for poor families, the greatest economic loss occurs as a result of indirect costs, such as loss of employment, travel to health facilities, sale of assets to pay for treatment-related costs, funeral expenses, and particularly lost productivity from illness and premature death. Studies on economic impact of tuberculosis showed that, on average, 3-4 months of work time lost if an adult has tuberculosis, resulting in the loss of 20-30% of annual household income, and an average of 15 years of income is lost if the patient dies from the disease and hence delay to treatment seeking can scale up this condition (22).

The MOH hospital statistics data showed that, tuberculosis is the leading cause of morbidity, the third cause of hospital admission (after delivery and malaria) and the second cause of death after malaria. When the patients do not seek early care the latent stage of the disease will come to the stage of infection beyond that the patients develop a potential to transmit the disease to other persons therefore the cycle of the disease transmission will continue in the community and make TB the most challenging human health problem that cannot be controlled and prevented for many years (23).

According to MDGs Prevalence and death rates associated with tuberculosis and proportion of tuberculosis cases detected and cured under DOTs is not going as planned (18). The impact targets are to halt and begin to reverse the incidence of TB by 2015 and to reduce by 50% prevalence and mortality rates by 2015 relative to 1990 levels (24).

Ethiopia the case detection rate of 70% as targeted by WHO TB control program has not been achieved as it now stands at 34 % only (25), as well as in Oromia region case detection rate is 36%. where as in East Wollega Zone the TB case detection rate during 2009 budget year was around 23% which is too far from WHO set criteria of 70% case detection rate (18). This indicate that very few number of TB patients visit the health institution while a vast majority of the patient delayed from treatment and remain in community which in turn scale up the current burden of tuberculosis. Although understanding of TB suspect's Adult intention to treatment has a paramount important for tuberculosis prevention and control as well as to increase case detection rate of tuberculosis, it is not yet researched in community based study in Ethiopia Thus; this cross-sectional study is aimed at identifying predictors of behavioural intention to seek treatment among adult TB Suspect Adults.

CHAPTER TWO: LITERTURE REVIEW

Theory of planned behavior

The theoretical model employed in this research is based on theory of planned behavior (TPB) (26). The TPB is an extension of theory of reasoned action (TRA) and was established to answer the limitation in the TRA (27, 28). TPB deals with behavior where individuals have incomplete faculty of using one's will or situation where they have incomplete control of their behavior (26, 29, 30). An extension of TRA, TPB is composed of attitude towards the behavior, social factor called subjective norm and an added variable which is the degree of perceived behavioral control (PBC) (26, 29, 30). PBC is the additional construct that was added to solve the limitations in TRA (26, 29, 30).

Perceived behavioral control (PBC): The control belief in TPB is represented by PBC. The construct of PBC was added into the model to answer the limitations of TRA (27, 28), in an effort to deal with situations where individuals may lack complete volitional control over the behavior (26, 29). PBC is defined as, given the presence or absence of requisite resources and opportunities, the individual's perception of the ease or difficulty in performing the behavior of interest (26). In summary, the performance of a particular behavior is correlated to the confidence of the individual in his/her ability of performing the behavior (26). PBC is based partly on past experience and partly from second hand information through the exchange of information by family, friends and factors that may control the level of perceived difficulty of performing the behavior of interest (26). Given the increase in resources (time, health care service, and money) and opportunities, the greater is the perceived control of the particular behavior (26) and thus the more likely is the performance of the behavior, in this case visiting health care service.

Researches have shown that PBC accounted for considerable variance in intention and behavior and there is a positive relationship between PBC and intention (31-38). Thus, with the given resources the higher the confidence of his/her ability, the more likely and individual is in visiting health care service.

Subjective norm: Subjective norm is an original construct from TRA that deals with the influence of social environment or social pressure on the individuals and thus on behavioral intention (27). Subjective norm is defined as the individual's perception of the likelihood that the potential referent group or individuals approve or disapprove of performing the given behavior (26, 27). Subjective norm is shown as a direct determinant of behavioral intention in TRA (27) and TPB (26). The rationale to this, under significant social influence and social pressure, an individual would perform the behavior even though the individual is not in favor of performing the behavior (40). Studies have shown mixed result regarding subjective norm as a predictor of intention. Studies have shown no significant relationship between subjective norm and intention (41, 42) and some studies have shown significant relationship between subjective norm and intention (32, 40). Model using the TRA and TPB framework has shown subjective norm to have significant relationship with intention. Hence, it can be said subjective norm to have significant effect on intention to visit health care facility.

Attitude: Attitude has long been identified as a construct that guides future behavior or the cause of intention that ultimately leads to a particular behavior. In TRA, attitude is referred as the evaluative effect of positive or negative feeling of individuals in performing a particular behavior (27). The more recent definition of attitude is the degree of favorableness and unfavorableness of an individuals feeling towards a psychological object (39). The two components of attitude is attitude towards physical object (Health care service) and attitude towards behavior or performing particular action (visiting health care service) (43,44). In case of visiting health care service the more positive the attitude an individual has towards the object and behavior, the more likely is the behavioral intention and performance of the behavior. Many studies have shown the significant effect of attitude towards intention (31, 32, 34, 35, 41, 45, 46).

Behavioral intention: Intention is defined as the perception of an individual towards performance of a particular behavior (27). In TRA, intention is defined, “as a person’s location on a subjective probability dimension involving a relation between himself and some action”. In TRA (27, 28), intention is predicted by attitude and subjective norm. Later in the extension of TRA, the TPB (26, 29, 30) the antecedent of intention are attitude towards the behavior, subjective norm and the degree of PBC.

When behavior is under the individual’s control, intention can predict actual behavior with significant accuracy (48) but, this does not mean that the measure of intention and behavior is in perfect correlation (27).

There always exists strong biasness for individuals to overestimate the likelihood of performing desired behavior and underestimate the likelihood of not performing undesired behavior. In turn this overestimates and underestimates is believed to cause inconsistencies between intention and the actual action (49). Behavior and intention shows high correlation if the interval time between the intention and the behavior is low (50).

Studies also show that the interval period between intention and behavior correlates with the variance explained by the intention based model, like voting for presidential candidate (50), choice of feeding method for newborn babies (51), reaction to system used in trial basis (41), perceived near-term usefulness (52) and condom use (53,54). Intention is known to change overtime, the greater the interval period between intention and behavior, the greater the likelihood of changes in intention (30).

Behavior: Behavior in the intention-based model is referred as a manifestation which is observable, single-act criterion which is performed (not-performed) with respect to a specific target in a given situation at a given point of time(27).How hard individuals are willing to try, the effort the individuals are planning to exert to perform the particular behavior is the motivational factor captured in intention that subsequently influence behavior(26).Behaviors leading up to the attainment of goal are made up of intermediate goals with their own problem of execution.

As stated earlier, the accuracy of behavior prediction will usually decline with the increase in time that intervenes between measurement of intention and observation of behavior (30). Ajzen and Fishbein has identified four factors that leads to poor correlation between intention and behavior or the factors that influence the strength of behavior :(1) low intention-behavior relation (2),stability of intention (3),intention-behavior compatibility (4), and literal inconsistency (54).

The TPB asserts that intention is jointly determined by one's attitude, which reflects positive feelings towards performing behavior, subjective norm which reflects perceptions that other people desire the individual to perform a particular way; PBC which reflects internal and external constraints on the act of performing the behavior (54).

The study conducted in Thailand shows role of education in health care seeking behaviors is explained in many studies. One of the possible expiations was that highly educated people are more conscious of disease and illness and are willing to seek medical care more promptly. The role of knowledge about their disease is an important role in health seeking behaviors because it refers to the patient's ability to recall or know about the etiology of disease, chain of disease process, symptoms, preventions and treatment of TB (55).

Accessibility is a number or proportion of the given populations that can be expected to use a specified facility service. There are certain barriers in the access of health service including physical barrier (distance, time travel, mean to transport), Economic barrier (travel cost, medical cost) a social and cultural barrier that exist in any community. In general, as distance to facility increase, utilization of health service decreases. This is⁹ an important barrier toward seeking health care. The effect of distance is greater when it is combined with lack of transportations and complex directions (55).

Another study conducted in Lusaka. Delay was associated with older age, severe underlying illness, poor perception of the health services, distance from the clinic and prior attendance at a private clinic. There was no relationship between delay and knowledge about tuberculosis, nor with education, socio-economic level or gender (56).

A study conducted in Kenya explains that community's perception of tuberculosis on the initial decision to seek medical attention came from various sources. The family can be considered to be influential in the decision making process, through finding the money for treatment and assisting in identifying suitable health seeking behavior other persons instrumental in helping the patient decide to seek medical attention were friends, neighbors, community leaders, community members and health workers (57).

More over a study conducted in rural Ethiopia in Amhara Regional State on Perception of illness and health care action all study participants were asked about their perception regarding their illness. Surprisingly, (46%) perceived their symptom as "*bird*", a local expression referring to a disease believed to be caused by exposure to a wind or a cold weather. Where as (14%) reported that their symptom was due to TB, (36%) could not associate their symptom to any kind of illness, and the remaining (4%) thought their symptoms to be due to asthma or the common cold, This study also showed that personal health was not a priority in poor communities where people strive simply to meet their daily needs (58).

The study conducted in Derra Woreda, Semen Shoa Zone of all surveyed household members 6% were identified as TB suspects. The majority of the suspects (89%) do not visit health facilities. The reasons for impediment of healthcare seeking were associated with knowledge of TB, economic, inadequate treatment and in appropriate treatment (59).

According to a study In Jimma zone among the treatment seeking behavior of adult having a cough more than 2 weeks only 25.2% contacted a health institution where as 46.2% did not seek any help from health facility the reason for not seeking help include lack of money for transportation and the perception that the disease will improve and consider the disease to be harmless and no health facility around were mentioned as reasons for not seeking help from health facility (60).

Conceptual Frame work of the study

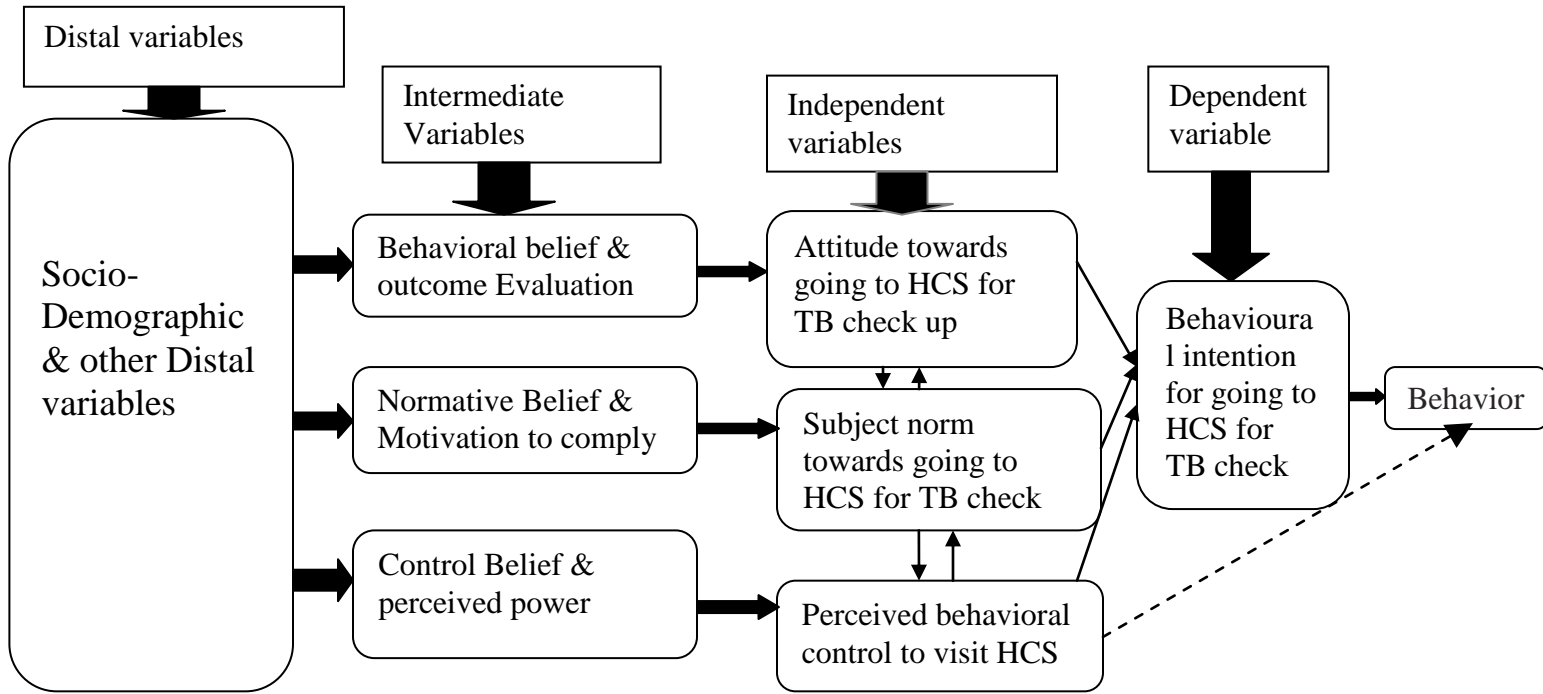


Fig 1. The conceptual framework of the study, Adapted from Theory of planned Behavior, Ajzen 1991.

Significance of the Study

Tuberculosis control can be effectively achieved if individuals with the disease receive adequate and timely treatment which in turn reduces the time of infectiousness TB in the Community (4). Practically promotion of early treatment seeking by TB suspect in the community is important since it prevents death from active TB or its late effects; prevents relapse of TB; □ decrease transmission of TB to others and prevent the development of drug resistance TB (14).

The Theory of Planned Behavior can be useful in designing strategies to help people to adopt healthy behaviors' thus the finding can then drive the design of intervention and health education messages.

By changing the three 'predictors' of TPB we can increase the chance that the TB suspect adults will intend to visit health facility and thus increase the chance of the TB suspect adults actually visit health facility.

Although there were some studies which assessed delays in the treatment seeking behavior of TB suspect adults in Ethiopia, there is no study that documented on predictors of treatment seeking intention among TB suspect adults ,Thus the findings from this study can be used as a base line data for other researchers who are interested to study in this area or it can give revealed information's which will serve as baseline data for planning and intervention strategies in Tuberculosis prevention & control in Sibu Sire district.

It can be helpful for policy makers to consider this issue during developing tuberculosis prevention and control program. The recommendations from this study will furthermore be helpful for local health planners, local health department and those organizations working on TB to consider the issue during their planning.

CHAPTER THREE: OBJECTIVE

General objective

- To identify and describe predictors of treatment seeking intention among TB Suspect adults of Sibul Sire district residence of East Wollega Zone Oromia region.

Specific objective

- To identify the behavioral Predictors of TPB that influence treatment seeking intention among TB suspect adults in Sibul Sire district.
- To describe treatment seeking intention among TB Suspect adults, in Sibul Sire district.
- To identify external factors to the TPB which influence treatment seeking intention among TB Suspect adults in Sibul Sire district.

CHAPTER FOUR: METHODS AND MATERIAL

Study area

The study was done in Sibu Sire Woreda of East Wollega Zone, West Ethiopia which is 281 KMs far from Addis Ababa. The total population of the district is 114, 575. The climatic condition of this locality is Weyena Dega with an attitude 1700m above sea level. It covers total area of 187 Sq.KM. the district consist of 22 kebeles out of these, three of them are urban kebeles and the remaining 19 are rural kebeles.

The district has 1 functional health center, 2 health centers on construction, 22 health posts, 16 small private clinics, 1 medium private clinics and 4 rural drug vendors. One health center gives both TB diagnoses service and DOTs program for confirmed tuberculosis cases whereas five health posts give DOTs service to tuberculosis patients. The health centers are staffed by a health officer, nurses, laboratory personnel and sanitarian. The clinics and health posts are staffed by a nurse or health extension worker respectively and the health service coverage of the district is 94.75%.

Study Period

The study was held from March10-April8, 2010.

Study design

A community based cross-sectional study design that was conducted on adult TB suspect of treatment seeking intension in Sibu Sire district.

Population

Source population

For quantitative study Adults TB Suspect in sibu sire district. For qualitative study health care providers working on DOTs as well as health extension workers of the district were included.

Sampling unit

All House -holds with suspected TB cases in selected kebeles of Sibú Sire district were taken as sampling unit.

Study Population

For quantitative study sampled individuals TB suspect whose age is ≥ 15 years among house-hold members and for qualitative study those health care providers as well as health Extension workers working on DOTs provision service at selected kebeles were considered.

Inclusion criteria

- Age 15 years and above TB Suspect Adult tuberculosis in a house hold level during the study period.
- TB suspected adults who had a cough of more than or equal to 2 weeks, were included in the sample.

Exclusion criteria

- Those who have impaired-hearing or any other serious health problem who are unable to provide appropriate information were excluded.
- Those who were taking a treatment on DOTs.
- Those who visit health care facility but not get treatment.

Sample size Determination

The sample size for quantitative part of the study was calculated using a formula for estimating a single population proportion. While calculating the sample size the following assumptions were considered; the proportion of TB Suspect adult who intend to seek treatment from modern health care facility was assumed as 50%, margin of error of 5%, and Confidence level of 95%.

$$n = D \frac{\left(Z_{\alpha/2}\right)^2 \times p(1-p)}{d^2} \quad \frac{(1.96)^2 \times (.5 \times .5)}{(0.05)^2} = 384$$

Where Z=a standard score for a specified level of confidence (95%), $Z_{\alpha/2} = 1.96$

P= intention to treatment is unknown therefore p value is 0.5

d = margin of error=0.05

n= sample size

The final sample size was 845 by considering 10% Non response rate

For qualitative study

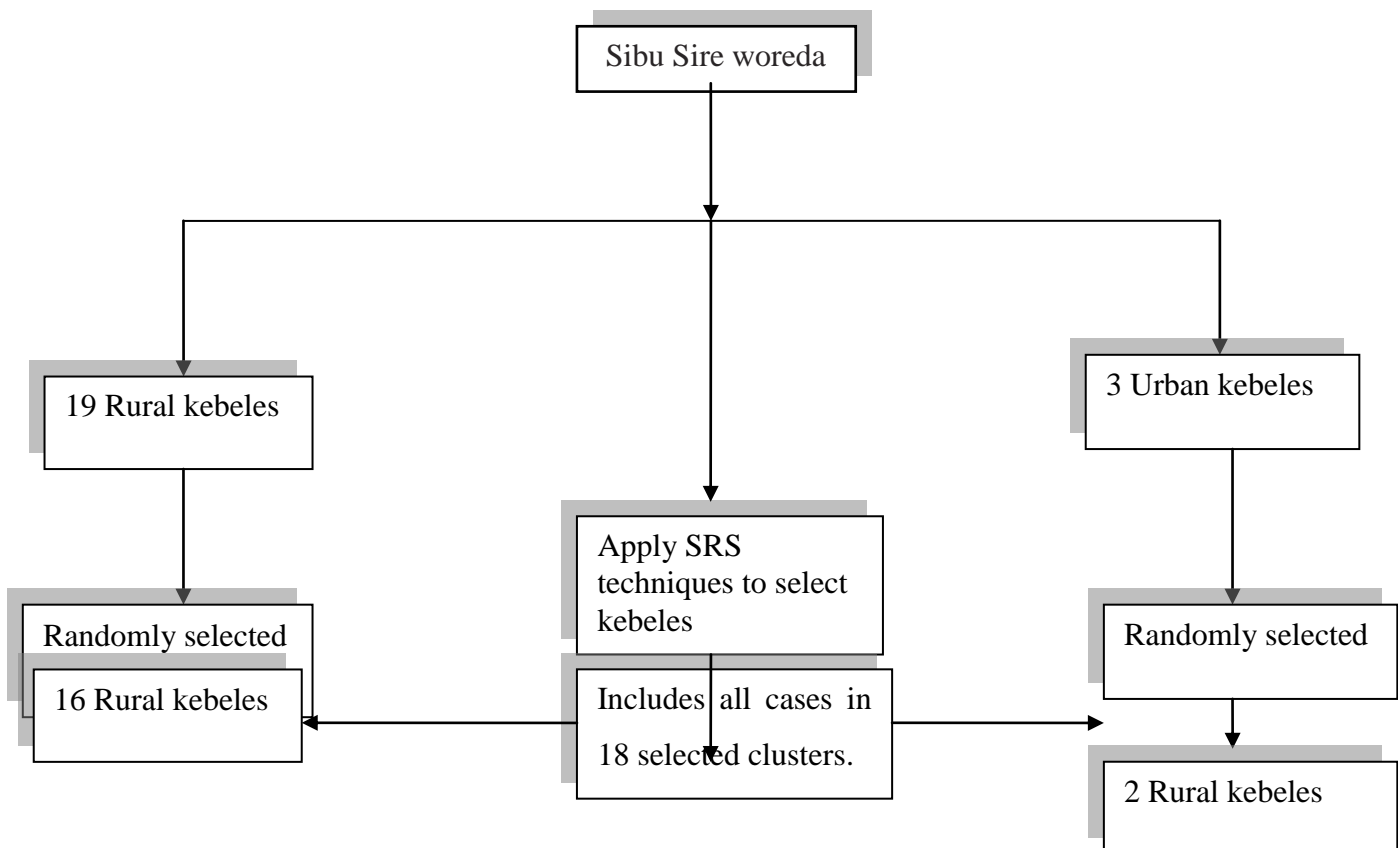
14 in-depth interviews were made with health care provider as well as health extension workers information saturation and redundancy as well as the number of informants were used to limit the number of interviews.

Sampling technique and procedure

Purposive sampling technique was used to select service providers as well as health extension workers of the district for qualitative study. A study used cluster sampling techniques for quantitative study. From a total of 22 kebeles (clusters) 19 are rural kebeles and three are urban kebeles.

Kebeles (clusters) were randomly selected from both urban and rural strata then all individuals who have a cough more than or equal to two weeks were included in the study the number of kebeles (clusters) were determined until the required Sample sizes were achieved based on this procedure, sixteen rural kebeles and two urban kebeles were randomly selected, all the study participants found in the kebeles were included.

Figure –2.Schematic representation of sampling procedures



Data collection methods and instruments

Data collection Procedure

Thirty six data collectors who completed grade 10 and could speak local language were hired. Training was given for 2 days by the principal investigator, to data collectors and supervisors prior to data collection. Emphasis was given on the significance, appropriate meanings of each question for the respondents as well as on the objective of the study, its relevance, Confidentiality of participant's response, participant's right, informed consent and techniques of interview which was supplemented with practical demonstrations. After identifying the study participants for the quantitative study, signed informed consent were assured, then data were collected through a face to face interview using Afan Oromo version structured questionnaire.

In addition an in-depth interview was made to supplement the quantitative data. Informed consent was assured from each informant and the interview was held in a quite area to maintain the confidentiality. The information was collected by principal investigator and supervisors who had take part in note taking.

Data collection instrument

Two separate data collection instruments were develop to collect quantitative and qualitative data. The quantitative data collection instrument has five section; Sociodemographic information's, measures of knowledge on TB, treatment seeking behavior, Accessibility to TB centers and information and measures of behavioural intention (direct or salient belief).

The direct measure of behavioural intention adapted to local context from the manual developed for constructing questionnaire using the TPB and other related studies. Where as the salient belief measures of behavioural intention was develop in two phases according to the guide line for the construction of a standard TPB questionnaire.

Belief elicitation study was conducted to identify the salient belief measures of attitude, subjective norm and perceived behavioural control. Twenty five clients were selected purposively from the set up similar to source population from East Wollega Zone, Seyo district, Ano Becnissa kebele. Such important beliefs for the study population regarding the behavioural consequence of TB suspected adults visiting HCF and the significant referent and control factors were identified through in-depth interviews. Then frequently occurring responses, mentioned by 75% of the respondents were used to form the basis for the development of measures of behavioural, normative and control beliefs.

From the identified salient beliefs, similar items were combined and used to develop the final questionnaire. Pre-test were done on other 20 clients, before including the measurement in to the final version instrument.

Elicitation study data analysis: recorded responses gathered from the in-depth interview of 25 interviewees were, transcribed, sorted, and thematized manually to obtain specific information which could be used as a base to construct questionnaire for the quantitative survey.9 behavioral belief, 12 normative beliefs and 8 control beliefs were obtained.

Then, the variables were sorted according to their frequency of occurrence behavioral belief, normative beliefs and control beliefs were shared by 75% of the interviewees. The questions designed to measure behavioral intention directly or indirectly were presented in a multiple item, where each construct of TPB had four question, and unipolar likert scale ranging from “strongly disagree” with a value of “1” to “strongly agree” with a value of “5” .While item designed to measure attitude are developed to asses the instrumental and experimental aspects.

Factor analysis is a data reduction technique and also used to determine whether items are tapping into the same construct. During factor analysis, factors with eigen value of less than one would be rejected and factors with eigen value of more than one would be retained for further analysis. Furthermore, during factor analysis, if the eigen value is close to 1 than the factor could be considered for inclusion. To reduce the problem of cross loading, if the differences of loadings of any item across factors were less than 0.10 than the items will be deleted. Next reliability testing was applied, to determine the degree to which measures are free from random errors.

Cronbach's α reliability analysis was applied to identify how well the items grouped are positively correlated to one another. Cronbach's α value of 0.70 and above is considered to be reliable. An α value of 0.70 and above indicates items are homogenous and measuring the same construct. Factor analysis was conducted on items from attitude, subjective norm and PBC. The percentage of variance criterion is an approach based on achieving a specified cumulative percentage of total variance extracted by successive factors.

Measurements

Dependent variable

- Treatment seeking intention

Independent variable

- Attitude towards TB treatment,
- subjective norm towards TB treatment,
- PBC towards TB treatment

Intermediate variables

- Beliefs towards treatment
- Outcome evaluations
- Normative beliefs
- Motivation to comply
- Control beliefs
- Perceived control power

Distal variables

- Knowledge on TB
- Age
- Sex
- Educational status
- Other Socio-Demographic Characteristics

Operational Definitions

Suspected Adult: Those tuberculosis suspected adults whose age are greater than or equal to 15 Years.

Knowledge on TB: Refers to knowing of the scientific fact about tuberculosis and its prevention and treatment.

Behavioral intention to treatment seeking (I): It is the TB symptomatic Adult motivation in the sense of his/her conscious plan to exert such behavior, intend to seek health care service. Three items were presented to describe respondents' level of agreement in a five scale response format ranging from "strongly disagree" to "strongly agree". The items assess the level of expectation for TB suspected Adult to seek health care service, intent and want.

Attitude towards TB treatment (AT): It is the degree of favor or disfavor of seeking health care service. Attitude is measured in two ways, by asking the respondents' direct degree of favor or disfavor through four items presented in a five point semantic differential scales as seek health care service for TB suspected Adult is "Harmful to beneficial" and "Worthless to Useful" To assess the instrumental aspect of attitude and "Bad to Good", and "unpleasant to pleasant" to assess the experiential aspect of attitude. Secondly, items of behavioural beliefs and outcome evaluation were used to compose the attitude scale, where each behavioral beliefs item scores were multiplied to its corresponding out come evaluation item scores and then summed-up to compose the belief based attitude scale, i.e. $A = \sum b_i e_i$.

Subjective norm towards treatment seeking (SN): It is the perceived social pressure to seek treatment or intending to go to health care service. Similar to that of attitude, subjective norm is measured in two ways. Three items were used to measure the subjective norm directly; the respondents rate their level of agreement or disagreement with a five category likert scale measures ranging from "strongly disagree" to "strongly agree". In addition, items of normative belief and motivation to comply were used to compose the subjective norm scale, where the score

of each normative belief items were multiplied to its corresponding motivation to comply item score and sum-up to compose the belief based subjective norm scale, i.e. $A = \sum n_i m_i$.

Perceived behavioural controls to seek treatment (PBC): It is the perception on the easiness or difficulty of health care treatment seeking. Like other independent variables, the perceived behavioural control was measured in two ways. It is measured directly with four items that assess the respondents' behavioural control to seek treatment. respondents' disclose their level of agreement or disagreement in a five scale likert response category ranging from "strongly disagree" to "Strongly Agree" to the presented items. Further, items of control belief and power of control were used to compose the belief based perceived behavioural control scale, where the score of each control belief items were multiplied to its corresponding power of control item score and sum-up to compose the belief based perceived behavioural control scale, i.e. $= \sum c_i p_i$.

Data processing and Analysis

Quantitative data Analysis

Data were double entered using Epi-data version 3.1 (Epi-data, Norway, 2006) for analysis, the data were exported to SPSS version .16.0. Summary Tables and graphs were used to present the findings. Frequencies, percentages, means and standard deviations were used to summarize the descriptive results.

Bivariate and Multivariate correlations were made to determine the relationship among the constructs of TPB. Items of the behavioral predictors extracted from the theory of planned behavior are designed in a five point semantic differential scale to measure attitude and likert scale format was used to measure subjective norm and perceived behavioral control. The response categories “strongly agree” and “agree” as well as “strongly disagree” and “disagree” are grouped as “Disagree” for the sake of analysis.

As well, multiple regressions were run to identify predictors among distal variables. At last dist variables that have significant correlation to treatment seeking intention and a potential direct predictors of TPB (TPB were run a stepwise regression) were used to explain treatment seeking intention variability. The analysis proceeded in two main steps. First, correlation and multiple regression were used to assess the level at which the direct measure of attitude, weighted behavioural beliefs, subjective norm, perceived control and weighted control beliefs contributed to prediction of intention. Second, correlation and regression were used to determine which behavioural beliefs, normative beliefs, or control beliefs are most strongly associated with intention in the second step we identify important beliefs in the community that we are going to intervene.

Qualitative data analysis

Recorded responses collected from respondents were transcribed. Content analyzed and thematized in the main thematic area in accordance with the constructs of TPB and the identified distal variables. Important specific views, opinions, and beliefs of the respondents with their own sayings were selected and presented to support the quantitative findings.

Data Quality Assurance

To ensure the quality, of the data both the direct and salient measures of behavioural intention were developed according to the recommended standards guide line and relevant literatures. The questionnaire was translated from English to Afan Oromo by expert translator and back to English by second other translator to compare the consistency. The original English version instrument Afan Oromo and back translated to English in order to keep its consistency. Pre-test was conducted on 5% the sample size to determine the acceptability of the question to be asked and the methods used, reaction and willingness of the respondents, time required, performance and adequacy of data collectors and either to modify or change ambiguous and unclear ideas. Two days long training was provide to data collectors and supervisor to familiarize the instrument and the objective of the study. All complicated Questionnaires was examine and checked for completeness, inconsistency and any other sort of errors at all level of data management. To assure the reliability of the instrument items with cronbach's alpha 0.7 or more was included in the analysis.

Ethical Consideration

Ethical approval was obtained from Ethical review board of Jimma University. And letter of support was obtained to conduct the study. The aim of the study was discussed with government authorities prior to the start of the data collection. After securing permission for the study, East Wollega zone health Bureau and Sibule district health office was informed and permission was obtained.

During data collection, all the study participants were communicated about the objective of the study prior to data collection to obtain their signed consent and voluntary participation. Participants had full right to discontinue the interview at any time. Privacy of participants and confidentiality of their response was maintained during interview. Statement of anonymity was read at the beginning each interview. After the data collectors finished the face to face interviews with the study participants they gave information to the participant about the availability of free TB referral linkage between health post and health center thus he/she can get the service.

Result Dissemination

The finding of the study will be presented and submitted to Jimma University College of public health and medical sciences. Copy of the results will be submitted to MOH, Oromia regional health Bureau, East Wollega Zone health Bureau, Sibule district health office and other interested officials. As well publications in scientific journals will be considered in advance.

CHAPTER FIVE: RESULTS

Socio-demographic characteristics of the participants

Socio-demographic characteristics of the participants

A total of 763 people with cough of more than two weeks were participated in the study giving response rate of 90.4%. The mean age of participants was 36.90 years (SD= 15.11). 659(86.4%) of the participants, were residing in rural villages and 540(70.8%) and 39(5.1%) of the respondents were married and widowed, respectively. Regarding religion, 359(47.1%) was protestant followed by Orthodox which accounts 316(41.4%). In terms of ethnicity, Oromo constitutes the largest; 649(85.1%) followed by Ahmara which account 98(12.8%). Most of the participants, 698(91.5%) were attended primary education. (Table 1).

Table 1: Sociodemographic and other characteristics of TB suspected adults at sibu sire district May 2011.

Socio –demographic (n=763)	Frequency	(%)
Age (years)		
15-34	387	50.7
35-54	259	33.9
≥55	117	15.4
Ethnicity		
Oromo	648	84.9
Amhara	99	13.0
Others (Tigre, Gurage)	16	2.1
Occupation		
Farmer	562	73.6
Unemployed	74	9.7
Daily laborer	63	8.3
Governmental employee	32	4.2
Others (Merchant, driver and student)	32	4.2

Monthly family income

<400	386	50.6
401-800	350	45.9
>801	27	3.5

Educational status

Illiterate	538	70.5
Read and write only	93	12.2
Primary school (1-6)	67	8.8
Secondary school (7&8)	32	4.2
High school (9-12)	23	3.0
College /Diploma/University degree or higher	10	1.3

Knowledge about TB and its prevention methods

Knowledge of the respondents about TB and its prevention practice was presented in table 2. Accordingly, 537 (70.4%) of the participants knew that TB is caused by infectious agent TB germs and 319(41.8%) knew that TB is not hereditary. Similarly, 517(67.8%) responded that TB can bring a group of symptoms, 568 (74.4%) knew that TB is transmittable and 578(75.8%) reported that TB can be cured. With regard to mode of transmission, 407(53.3%) of the participants knew that TB patients' can spreads TB causing germs in the air when coughing. More than half of the respondents, 408 (53.5%) knew that lack of enough ventilation can transmit TB.378 (49.5%) knew that Sun light can not kill air born germs. Concerning knowledge about TB prevention methods, 484(63.4%) and 520(68.2%) of the participants knew that BCG vaccination and covering mouth and nose prevent TB respectively

Table 2: Distributions of TB suspected adults at sibu sire district by knowledge about TB and its treatment May 2011.

Knowledge about TB and its treatment (N=763)	Frequency	%
TB is caused by infectious TB germs.	537	70.4
TB is hereditary.	444	58.2
TB is transmittable.	568	74.4
TB is curable.	578	75.8
TB can bring about group of symptoms (cough, fever, weight loss).	517	67.8
Untreated TB patients spread TB causing germs in the air.	407	53.3
Place with out ventilation can transmit TB.	408	53.5
Sun light effectively kill airborne germs.	385	50.5
For prevention of TB spread, whenever cough or sneeze, always use cloth or both hands to cover mouth and nose.	520	68.2
BCG vaccination is an active measure for children to prevent TB.	484	63.4

Percentage shows the frequency of the correct response.

Treatment seeking intention of the study subjects

The mean treatment seeking intention of the respondents was 12.6 ± 2.8 (range of possible score=3-15), which shows a high treatment seeking intention. From total participants 446(58.5%) score above the mean value of intention while the remaining 317(41.5%) score below the mean value.

Majority, 647 (84.8%) of the respondents expect TB suspected individuals have to visit health facility and considerable numbers of the study participants, 638(83.6%) wanted to go to health facility in the near future, 633(83.0%) intended to go to health facility for check up of TB.

Table 3: Intention to seek treatment among TB suspected adults Sibusire district, 2011.

Items (Intention)	Agree	Disagree	Not sure
	No %	No %	No %
I expect TB Suspected individuals to visit HCF.	647 (84.8%)	74(9.7%)	42 (5.5%)
I want to go to HCF and have a check up for TB.	638 (83.6%)	73(9.6%)	52 (6.8%)
I intend to go to HCF and have a check up for TB.	633(47.4%)	80 (46.0%)	50 (6.6%)

Predicting treatment seeking intention from direct measures of TPB variables

Attitude, subjective norm and perceived behavioral control were measured by direct items. Accordingly, the mean score to direct measures of TPB variables were 12.9 ± 2.8 for attitude (range of possible score=3-15), 7.8 ± 2.0 (range of possible score=3-15) for subjective norm and 11.3 ± 3.6 (range of possible score=3-15) for perceived behavioral control. This implies that the majority of the respondents had supportive attitude towards seeking treatment from health facility. Moreover a mean value for subjective norm showed us a relatively low influence from the referent groups towards visiting health facility and the mean score to perceive behavioral control scale perhaps implies with the existing resources and opportunities is was not difficult to visit health facility.

Table 4: Shows that all the five of the direct psychological determinants were significantly correlated with treatment seeking intention. Thus, participants' intention was regressed on attitude, weighted behavioural beliefs, subjective norm, perceived control, and weighted control beliefs. Stepwise regression indicated that all the five psychological components independently contributed to predicting treatment seeking intention. Attitude ($\beta=0.34$) and weighted behavioral beliefs ($\beta=0.25$) were the most important predictors, followed by control belief ($\beta=0.18$), perceived control ($\beta=0.12$), and subjective norm ($\beta=0.11$). These predictors explained 51.52% of the variance of intentions ($R=.5152$).

Table 4: Predicting treatment seeking intention among TB suspected adults from direct measures of TPB variables, May 2011.

TPB direct measures	R	Beta
Attitude	.54	.34
Subjective norm	.31	.11
Perceived control	.42	.12
Behavioural beliefs	.34	.25
Control beliefs	.56	.18

Relationship between distal variables and treatment seeking intention

All the distal variables were entered into a regression model to examine its effect on treatment seeking intention. Accordingly, only place of residence (beta=0.43, P=0.001), current smoker (beta=-0.098, p=0.002), monthly income (beta=-0.12, =0.001) and knowledge (beta=0.23, P<0.001) were significantly independently predicted treatment seeking intention. These distal variables explained 29.5% indicating 29.5% of treatment seeking intention was explained by place of residence, being smoker, family monthly income and knowledge (**table 5**).

Table 5: Predicting treatment seeking intention by distal variables among TB suspected adults, May 2011.

Distal variables	Beta coefficients	Sig.	95% CI for B
Residence (urban/rural)	0.440	.001	2.99-3.97
family monthly income	-0.124	.001	-0.01-0.23
Smoking (yes/no)	-0.980	.002	-2.02-0-.47
Knowledge	0.231	.001	0.23-0.38

TPB and Distal variables to predict treatment seeking intention

Respondents' place of residence, Current smoker, family monthly income and knowledge were first entered into regressed upon intention and found an $R^2 = .295$ ($p < 0.001$), indicates 29.5% of treatment seeking intention was explained by place of residence, Current smoker, family monthly income and knowledge.

Then attitude was regressed upon intention resulted in an R^2 of 0.465 ($p < 0.001$), a 0.17 R^2 change, referring that attitude had an additional 17% explanation in TB suspected treatment seeking intention. Next, belief based attitude was added to the regression model resulted in an R^2 of 0.563 ($P < 0.001$), with a 0.098 difference explained by attitude, where 9.8% of TB suspected treatment seeking intention was explained by belief based attitude. Subjective norm was added to the regression model resulted in an R^2 of 0.576 ($P < 0.001$), with a 0.013 difference explained by Subjective norm, where 1.3% of TB suspected treatment seeking intention was explained by subjective norm, direct perceived control was added to the regression model resulted in an R^2 of

0.580(P<0.001), with a 0.004 difference explained by direct perceived control, where 0.4% of TB suspected treatment seeking intention was explained by direct perceived control, indirect Perceived control was added to the regression model resulted in an R² of 0.579 (P<0.001), with a -0.001 difference explained by direct perceived control, where -0.1% of TB suspected treatment seeking intention was explained by indirect perceived control.

This indicates that external variables explained 29.5% and potential direct predictors of behavioural intention ; together explained 28.4% of treatment seeking intention of TB suspected adult, of which the highest share was due to attitude, 17% .In general, the constructs of TPB together with distal variables explained 57.9% of the variability in treatment seeking intention of TB suspected adult.

Table 6: predictors of treatment seeking intention by both TPB and Distal variables among TB suspected adults, May 2011.

		Coefficients						
		Unstandardized		Standardized		95% Confidence Interval for B		
		Coefficients		Coefficients				
Model		B	Std. Error	Beta	T	Sig.	Lower Bound	Upper Bound
1	(Constant)	.629	.645		.975	.330	-.638	1.896
	urban/rural	1.979	.211	.244	9.366	.000	1.564	2.394
	family monthly income	-.001	.000	-.085	-3.398	.001	-.002	.000
	Current smoker	-.974	.306	-.075	-3.184	.002	-1.575	-.374
	Knowledge	.143	.033	.108	4.297	.000	.078	.208
	direct Attitude	.309	.026	.316	12.063	.000	.259	.359
	indirect Attitude	.027	.004	.233	7.033	.000	.020	.035
	direct SN	.218	.045	.162	4.877	.000	.130	.306
	direct PBC	.059	.035	.112	1.679	.094	-.010	.127
	indirect PBC	-.003	.005	-.045	-.648	.517	-.014	.007

Predicting treatment seeking intention from indirect measures of TPB variables

The correlation of indirect measures with the respective direct measures of the TPB was assessed. According consistent with the expectations based on the theories, the indirect measure of subjective norm (weighted normative belief) was significantly correlated with the direct measure of subjective norm ($r=0.67$). However, the indirect measure of attitude (weighted behavioral beliefs) ($r=0.27$) and perceived behavioral control (weighted control beliefs) ($r=0.25$) had weak correlation with the direct measure of attitude and perceived behavioral control, suggesting that these two measures may be assessing different psychological constructs that may independently contribute to the prediction of intention. Therefore, prediction of treatment seeking intention may improved by treating these as separate predictors. As a result, we treated attitude, weighted behavioral beliefs, subjective norm, perceived control, and weighted control beliefs as potential direct predictors of behavioral intention.

Table 7: The effect of behavioral normative and control beliefs on treatment seeking intention.

Indirect measures	R	Beta	95%CI	
	.392			
weighted behavioral belief		.340	.030	.050
Weighted normative belief		.191	.013	.034
weighted control beliefs		.237	.014	.023

Potential targets of beliefs for an intervention

To identify potential targets for an intervention, the weighted beliefs associated with attitude, subjective norm and perceived control were correlated with intention.

Although the control belief correlated with intention, these measures were excluded from further analysis because the overall control belief measures did not independently contributed to the prediction of intention in the regression analysis (see Table 5).

To identify the weighted beliefs that independently contributed to the prediction of intention, all weighted beliefs underlying the psychological variables that were significantly related to intention were entered into a stepwise regression. Thus, for study participants' intention was regressed on the significant weighted beliefs and weighted normative beliefs separately.

Although three of the TB suspect's behavioural beliefs were significantly related to intention, the regression analysis found that only one belief independently contributed to the prediction of intention "If I go to health facility, I feel that I am getting relief from my illness (cough); and for me getting relief from my illness satisfy my desire to get relief" ($\beta=.250$). Even if three weighted normative beliefs were significantly related to intention, only one "My close neighbor think I should visit health facility if my cough stays more than two weeks; My close neighbor(friend) approval of Visiting health care service for TB diagnosis is important" ($\beta=.174$). –were independently contributed to the prediction of intention.

To identify critical targets for possible intervention, the final step in these analysis regressed intention on all the significant multivariate predictors identified in the above analysis (Table 5) with the beliefs identified above. Thus, one weighted behavioural beliefs, one weighted normative beliefs, attitude and subjective norm were used to predict intention. All the variables were independently contributed to prediction of intention, the weighted behavioural beliefs ($\beta=.251$), the weighted normative beliefs ($\beta=.135$), attitude ($\beta=.367$) and subjective norm ($\beta=.165$) were independently contributed to predict intention and explained 49.1% of the variability.

Attitude towards treatment seeking

Direct measure

The study participants' attitude was assessed through four items. Accordingly, 332(43.5%) of the participant believed that visiting health care facility for TB suspected individual is not beneficial, while 403(52.8%) believed that it is beneficial. Similarly, 592(77.5%) of the respondents responded that visiting health care facility for TB suspected individuals is useful, while 124(16.3%) consider it worthless. A consistent result also found from an in-depth interview.

TB focal person of the district said “.....when TB suspected individual come to health center if they have any cough; they assume that their illness is because of TB therefore they ask the health care provider to give them drug for TB. This is usually common among those who repeatedly come to health center as well as who has previous history of cough.....”

a. Behavioral Belief about seeking treatment and its evaluations

The study showed that 570 (74.7%) of the respondents agreed that visiting health care facility give them relief from their illness while 124 (16.3%) did not agree that with this statement. Almost one third, 570(74.7%), of the respondents believed that if they consult health extension workers' for their illness (cough), they feel that they get relief from their illness, whereas 125(16.4%) of the respondent did not believe in this statement. Majority, 567(74.3%) of the respondent believed that home remedies can cure their illness and 131(17.2%) did not agree with this statement. Concerning evaluation of these behavioral outcomes, the study revealed that 563(73.8%) of the respondents believed that getting relief from their illness was desirable and 130 (17.0%) feel that it was undesirable outcome. Similarly, nearly one third, 565(74.0%), of the respondents believed consulting health extension workers' for their illness was desirable where as 130(17.0%) of the respondents responded that it was undesirable outcome.

Table 8: TB suspect adults response to a statement assessing Behavioral Belief towards visiting health facility, sibu sire district, 2011.

Item	Agree		Disagree		not sure	
	No	%	No	%	No	%
If I go to health care facility, I feel that I am getting relief from my illness.	569	(74.5%)	126	(16.5%)	68	(9%)
If I consult health extension worker, I feel they will give me a solution for my illness.	571	(74.8%)	125	(16.4%)	67	(8.8%)
If I utilize home made treatment, I believe I got cured from my cough.	567	(74.3%)	131	(17.2%)	65	(8.5%)

Table 9: TB suspect adults response to a statement assessing Outcome Evaluation towards visiting health care facility, sibu sire district, 2011.

Item	Desirable		Undesirable		Not sure	
	No	%	No	%	No	%
For me getting relief from my illness	563	(73.8%)	131	(17.2%)	69	(9%)
For me consult health extension worker is	566	(74.1%)	130	(17.1%)	67	(8.8%)
For me utilizing home made treatment is	560	(73.4%)	136	(17.9%)	67	(8.7%)

Overall Subjective Norm (composed Subjective Norm)

The salient measures of subjective norm were weighted in a similar way to that of attitude. Then the weighted scores were summed-up to result belief based subjective norm score. Bivariate correlation run to examine the relationship between the direct and belief based subjective norm score had revealed a significant relationship ($r=0.675$, $p<0.001$).

Then each weighted scores were entered into a regression model to look at their relative strength of prediction and significant relationship was found between subjective norm ($P<0.001$, $AR^2=0.280$), where the weight score of the variables “My close friends(neighbor) think visiting health care service if my cough stays for more than 2 weeks and My close neighbor(friend) approval of Visiting health care service for TB diagnosis is important for me”(St.Beta=0.273, $p<0.001$)

Subjective Norm towards treatment seeking

Direct measure

Majority, 603(79.0%) of the participants agreed that most important people to them would think he/she should visit HCFs for their illness while 93(12.1%) were feel in the contrary. Similarly, 558(73.1%) of the respondents felt that they are under social pressure to go to HCF and have a check up for TB. Likewise, 544(71.3%) of the respondents believed most people important to them want them to go to HCF and have a check up for TB. However, 159(20.8%) of the respondent did not favor this statement.

Table 10: TB suspect adults response to a statement assessing the subjective norm towards visiting health care facility, sibu sire district, 2011.

Items	Agree		Disagree		Not sure	
	No	%	No	%	No	%
Most people who are important to me think that I should Visit HCF for TB check up.	603	(79.0%)	93	(12.1%)	67	(8.9%)
I feel like I am under social pressure to go to HCF and have a check up for TB.	558	(73.1%)	140	(18.3%)	65	(8.6%)
People who are important to me want me to go to HCF and have a check up for TB.	544	(71.3%)	159	(20.8%)	60	(7.9%)

Indirect Measurement:

A. Normative belief about treatment seeking and its motivation to comply

More than half, 542(71.0%) of the TB suspect Adults agreed their families would approve if they visit health facility for the cough that stay more than or equal to two weeks whereas 151(19.8%) of the TB suspect Adults believe that their families would not be in favor of the visit to health facility. Similarly, 520(68.2%) of the respondents agreed that their close friends would be accepted their visiting of HCF for the cough that stays more than or equal to two weeks, but 204(26.7%) of the respondents disagreed that their close friends would not admit their visiting of HCF for the cough that stays more than or equal to two weeks. Concerning motivation to comply to important others, It was seen that majority of the study participants, 563(73.8%) agreed that they comply for what their families think they should do whereas 133(17.4%) and 67(8.8%) of the respondents did not agree to comply and not sure to comply for what their families think they should do respectively. Similarly 549(72.0%) of the respondents were not likely to comply for their close friends' approval, while 161 (21.1%) were likely to comply for close friends' approval and 3(6.9%) were not sure of it.

Table 11: TB suspect adults response to a statement assessing the subjective norm towards visiting health facility, sibu sire district, 2011.

Items	Agree		Disagree		Not sure	
	No	%	No	%	No	%
1. My families think that I should go to healthcare service if my illness (cough) stays for more than 2 weeks.	542	(71.0)	151	(19.8%)	70	(9.2%)
2. My close friends (neighbor) Approve Of my Visiting health care service if my cough stays for more than 2 weeks.	475	(62.2%)	204	(26.8%)	84	(11.0%)
3. My partner (husband/spouse) does Need my Visiting of health care service if my cough stays for more than 2 weeks.	496	(65.0%)	204	(26.8%)	63	(8.2%)

Table 12: TB suspect adults response to a statement assessing motivation to comply towards visiting health care facility, sibu sire district, 2011.

Items	Agree		Disagree		Not sure	
	No	%	No	%	No	%
1.What my families think I should do, Matters me	563	(73.8%)	133	(17.4%)	67	(8.8%)
2.My close neighbor(friend) approval of Visiting health care service for TB diagnosis is important	549	(72.0%)	161	(21.1%)	3	(6.9%)
3.For me fulfilling my partners wish to Visiting health care service for TB diagnosis is important for me	123	(16.2%)	560	(73.4)	79	(10.4)

Overall Subjective Norm (composed Subjective Norm)

The salient measures of subjective norm were weighted in a similar way to that of attitude. Then the weighted scores were summed-up to result belief based subjective norm score. Bivariate correlation run to examine the relationship between the direct and belief based subjective norm score had revealed a significant relationship ($r=0.675$, $p<0.001$).

Then each weighted scores were entered into a regression model to look at their relative strength of prediction and significant relationship was found between subjective norm ($P<0.001$, $AR^2=0.280$), where the weight score of the variables “My close friends (neighbor) think visiting health care service if my cough stays for more than 2 weeks and My close neighbor(friend) approval of Visiting health care service for TB diagnosis is important for me”(St.Beta=0.273, $p<0.001$)

CHAPTER SIX: DISCUSSION

The study respondents' place of residence, Current smoker, family monthly income and knowledge were among distal variables which predict treatment seeking intention of TB suspect adults. The TPB provides an organizing frame work for studying and explaining visiting of health care facilities by TB suspect adults. From TPB constructs attitude, weighted behavioural beliefs, subjective norm, perceived control and weighted control beliefs were used as potential direct predictors of treatment seeking intention. Distal variables explained 29.5% of treatment seeking intention. Potential direct predictors of TPB construct; together explained 28.4% of treatment seeking intention of TB suspected adult, of which the highest share was due to attitude, which was 17% .In general, the constructs of TPB together with distal variables explained 57.9% of the variability in treatment seeking intention of TB suspected adult.

1. Description about treatment seeking intention among Adults TB Suspect.

From total participants, 446(58.5%) scored above the mean value of intention while the remaining 317(41.5%) scored below the mean value. Mean scores of the direct measures of TPB were computed to explain treatment seeking intention. Thus, a study participant had a mean treatment seeking intention of 12.61, which shows a high treatment seeking intention of TB suspected adults; with the standard deviation of 2.779 the minimum score of intention is 3 where as the maximum score is 15. Most in-depth interviews informants explained that the community has higher intention towards visiting of health care faculties one of the in-depth-interview informants express their intention like this “They can even sell their home to be diagnosed and treated for TB”

Similarly, the mean attitude was found to be 12.9, explaining supportive attitude towards treatment seeking intention. Moreover, a mean of 7.81 was obtained for subjective norm referring to a relatively low influence from the referent groups towards treatment seeking intention and a mean of 11.32 was found for PBC, referring visiting HCF for TB suspect individual with the existing resources and opportunities is not difficult.

Consistent with the expectations based on the TPB, the indirect measure of subjective norm (weighted normative belief) towards treatment seeking by TB suspected adults is significantly associated with the direct measure of subjective norm ($r=0.675$).

However, the indirect measure of attitude (weighted behavioural beliefs) is not highly correlated with the direct measure of attitude, suggesting that these two measures may be assessing different psychological constructs that may independently contribute to the prediction of intention. The same is true for perceived control (weighted control beliefs).

Therefore, Prediction of treatment seeking intention may improved by treating these as separate predictors. As a result, our analysis treated attitude, weighted behavioural beliefs, subjective norm, perceived control, and weighted control beliefs as potential direct predictors of behavioural intention.

2. Behavioral Predictors of TPB that influence treatment seeking intention

Attitude, weighted behavioural beliefs, subjective norm, perceived control, and weighted control belief were behavioral predictors of TPB that influenced treatment seeking intention among these variables. Attitude, weighted behavioural beliefs and subjective norm were the significant potential direct predictors of behavioral intention.

Attitude: In this study attitude explained 17% of the variability of treatment seeking intention and many studies have shown the significant effect of attitude towards intention (6, 7, 9, 10, 16, 20, and 21).

Subjective norm: The present study revealed that information about TB and its treatment came from different source such as health extension workers 62.4%, friends 20.2%, Neighbors/relatives 17.4%. Similarly, a study conducted in Kenya explained that community's perception of tuberculosis on the initial decision to seek medical attention came from various sources. The family can be considered to be influential in the decision making process, through finding the money for treatment and assisting in identifying suitable health seeking behavior other persons instrumental in helping the patient decide to seek medical attention were friends, neighbors, community members and health workers (57).

Studies have shown mixed result regarding subjective norm as a predictor of intention and some studies have shown no significant relationship between subjective norm and intention (16, 17) where as some other studies have shown significant relationship between subjective norm and intention (7, 15).In this study, subjective norm has a positive and significant relation with treatment seeking intention and explained 1.3% of the variability in treatment seeking intention.

Perceived behavioral control (PBC): Researches have shown that PBC accounted for considerable variance in intention and behavior and there is a positive relationship between PBC and intention (6-13). Thus, with the given resources, the higher the confidence of his/her ability, the more likely the individual is in visiting health care service. But, the current study revealed that there is no statistically significant relation between Perceived behavioral control and treatment seeking intention where as the result from in-depth interview from one of the informants showed us that TB suspect adults have a very high Perceived behavioral control. Critically ill TB suspect said, “I even spent the night in health center and gave my sputum in the morning.”

3. External factors to the TPB which influence treatment seeking intention

Respondents' place of residence, Current smoker, family monthly income and knowledge were indirect predictors that influence treatment seeking intention of TB suspect adults in this study.

The study is similar with a study conducted in Thailand which put certain factors as a barrier in access of health service these include Occupation, distance and economic barrier (55). This idea was also supported by In-depth interview; "The major barrier for TB suspected individuals to not visit health facility is as it's known, there is only one health center in our woreda. So, it is difficult to come to health center and check themselves for TB because the distance is too long."

Consistent with this study, the study conducted in Derra Woreda, Semen Shoa Zone revealed that the reason for not visit health facilities by TB suspect individuals were associated with knowledge of TB. As it was said by one of indepth-interview informant, "Most TB suspect assume that their illness is because 'true dha, dhukuba sebeta', the meaning in Afan Oromo, is disease of liver. They usually said, "tiruu kenga nubokokisa" meaning, it usually makes our lung to swell up but when we referred them to health center, they became TB positive". Generally, the role of knowledge about TB disease is an important role in health seeking behaviors because it refers to the patient's ability to recall or know about the etiology of disease, chain of disease process, symptoms, preventions and treatment of TB (59).

More over, a study conducted in rural Ethiopia in Amhara Regional State on Perception of illness and health care action, all study participants were asked about their perception regarding their illness. Surprisingly, (46%) perceived their symptom as "bird", a local expression referring to a disease believed to be caused by exposure to a wind or a cold weather. The result from in-depth interview is similar with this study. "When TB suspect has started to cough they said, 'Qorratuu na rukute', meaning I was exposed to a wind. So, they asked us to give them drugs or sometimes they use drug from local injectors and get relief for the time being. So, they continue their job". The study also showed that personal health was not a priority in poor communities where people strive simply to meet their daily life (58).

Strength and limitation of the study

Strength:

- The TPB was adapted to develop the conceptual framework of the study.
- Other moderator variables external to TPB are included as a distal variable.
- The instrument is developed according to standard guideline and relevant literatures.
- An elicitation study was conducted to identify the salient beliefs of treatment seeking intention to apply the theory in to local context.

Limitations:

- Measure of intention and behavior is not in perfect relationship.
- There is no local literature to compare the finding.

CHAPTER SEVEN: CONCLUSION AND RECOMMENDATION

Conclusion:

In this study respondents' external variables explained 29.5% of the variability in TB treatment seeking intention where as potential direct predictors of theory of planned behavior together explained 28.4% of the variability in treatment seeking intention, where an attitude shares the greatest portion 17%. Generally, the TPB variables jointly with external variables explained 57.9% of the variability of treatment seeking intention among TB suspected individuals.

Therefore theory of planned behavior provides excellent frameworks for conceptualizing, measuring and identifying factors that determine behavior. For theory to help drive interventions, it must focus attention on how to select the important factors we can influence from among many factors associated with behavior. TB suspected individuals of sibu sire woreda has a high intention to visit health facilities therefore by targeting and working on the beliefs identified through this finding we can actualize the desired behavioral change in the community.

RECOMMENDATION:

Considering the variability explained by TPB and the significant effect of external variable on treatment seeking intention, the following recommendations are forwarded.

1) Minister of health/Oromia regional health bureau

TB control programs in Ethiopia as well as in Oromia region should focus on educating rural communities, specially non-educated individuals, about the cause and the importance of early diagnosis and treatment of TB.

2) East Wollega Zone health Department

East Wollega Zone health department should create a facilitating condition in sibu sire district that enhance the actualization of a high treatment seeking intention of TB suspected adults in to practice.

3) Woreda health office

Woreda health office should increase community awareness through more specific and effective health education programs that focus on the symptoms, prevention and treatment of tuberculosis and the importance of early treatment seeking behaviors.

4) Health extension workers

Health extension workers should give effective health education programs that focus on the symptoms, prevention and treatment of tuberculosis and the importance of early treatment seeking behaviors to the family, neighbors and the community at large than individual as well as they have to educate on advantage of visiting health facilities over use of local injectors and illegal TB drug sellers.

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Annex I: English Version Questionnaire

Jimma University

College of Public health and medical sciences

Department of Health education

Instructions

This questionnaire is designed for a master's thesis focus on predictors of treatment seeking intention among TB suspect adults. You have no right to make a leading question to interviewee but you should explain every question clearly and completely. Your interviewees' answer and records will be confidential and anonymous. Please follow instruction on each part of the questionnaire. Your best effort is highly appreciated and will have good impact on questionnaire validity and reliability.

If the client's informed consent not reached, they will not participate in the study.

Signature of the participants_____

Signature of the data collectors_____

Study area: 1. urban 2.rural

Name of Kebele _____

Part 1: Socio-Demographic Characteristics

No	Questions	Response	Code	Skip
101	Sex	1.male 2.female		
102	How old are you?	_____year		
103	Ethnic group	1.Oromo 2.Amhara 3.Gurage 4.Tigre 5.Others, specify_____		
104	Marital Status	1. Single 2. Married 3.Divorced 4. Widowed 5.Separatd		
105	What is your religion?	1.orthodox 2.protestant 3.catholic 4.Muslim 5.others,specify_____		
106	What is the highest level of grade you have completed?	1. Primary school (grade 1-6) 2. Junior school(grade 1-6) 3. Senior school (grade 9-12) 4. Other higher education(12+) 5. Not Educated		

108	What is your current average family monthly income in Birr? _____	
109	What is your occupation? (What do you do for living?)	<ul style="list-style-type: none"> 1.farmer 2.house wife 3.student 4.private organization employee 5.NGO employee 6. Business man 7.Daily laborer 8.have no job 9.Others,specify_____
110	History of smoking	<ul style="list-style-type: none"> 1.Never 2.Current smoker 3.Quitted smoking

Part 2: Treatment – seeking behavior.

Questions	Response	Code	Skip
201. For the most recent TB symptom you had, have you received any treatment?	1. Yes 2. No 3. Don't remember 4. No response		
202. for the most recent TB symptom, which one have you received?	1. Self-treatment 2.Treatment from traditional healers 3. Treatment from modern health center		
203. If treatment is received from more than one treatment source, from which did you receive the first treatment?	1. Self-treatment 2.Treatment from traditional healers 3.Treatment from modern health center		
204. Are you or any of your family members in the past had develop TB?	1) Yes 2) No		
205. If yes to the above Question where you or any of your family members went for treatment of the disease?	_____		
206. What are the major symptoms that you feel right now?	1) Chest pain 2)fever 3)weight loss 4)cough up blood with or with out sputum 5)other specify_____		
207. Who has made the decision to visit health center or health post?	1. Myself 2.family member 3.colleauges 4.neighbor 5.health extensions workers		

Part 3: Accessibility to TB center

Questions	Response	Code	Skip
301. How far is your residence from this TB center? Approximately _____Km.	_____		
302. How long your residence takes on foot from TB center?	_____min _____hours		
303. Do you think the time you specified above is convenient?	0. Yes 1. No		

Part 4: Accessibility to TB information

Questions	Response	Code	Skip
401. Have you ever heard about TB?	1.Yes 2.No		
402. From whom have you heard about TB? (Please choose more than one if had from any one)	2.1 health extension workers 2.2 friends 2.3 Neighbors/relatives 2.4 EX-TB patient 2.5 health		
403. From where have you received information? (Please choose more than one if had from any channel)	4.1 TV 4.2 Radio 4.3 loudspeaker 4.4 new paper/magazine 4.5 posters 4.7 brochures 4.8 leaflet 4.9 other (specify) _____		

Part 5: Knowledge about TB and treatment

Questions	Response			Code	Skip
	1. No	2.yes	3.I don't		
1. TB is caused by infectious TB germs.					
2. TB is hereditary.					
3. TB is transmittable.					
4. TB is curable.					
5. TB can bring about group of symptoms (cough, fever, weight loss).					
6. Untreated TB patients spread TB causing germs in the air.					
7. Place with out ventilation can transmit TB.					
8. Sun light effectively kill airborne germs.					
9. For prevention of TB spread, whenever cough or sneeze, always use cloth or both hands to cover mouth and nose.					
10. BCG vaccination is an active measure for children to prevent TB.					

Parts 6: Measure of behavioural intention

Direction: for the following questions the response format is prepared in a form of scale, ranges from 1 to 5, the definition for each of the scales is given below.

1 Strongly disagree	2 Somewhat Disagree	3 Neutral or not sure	4 Somewhat Agree	5 Strongly Agree
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Q.no		Questions	Response format						
601	I	I expect TB Suspected individuals to visit HCF	Strongly Disagree	1	2	3	4	5	Strongly Agree
602	I	I want to go to HCF and have a check up for TB	Strongly Disagree	1	2	3	4	5	Strongly Agree
603	I	I intend to go to HCF and have a check up for TB	Strongly Disagree	1	2	3	4	5	Strongly Agree
604	AT	Visiting HCF for TB Suspected individual is	Harmful	1	2	3	4	5	Beneficial
			Bad	1	2	3	4	5	Good
			Unpleasant(for me)	1	2	3	4	5	Pleasant(for me)
			Worthless	1	2	3	4	5	Useful

Q.no.		Questions	Response Format						
604	SN	Most people who are important to me think that I should Visit HCF for TB check up.	Strongly Disagree	1	2	3	4	5	Strongly Agree
605	SN	It is expected of me to go to HCF and have a check up for TB.	Strongly Disagree	1	2	3	4	5	Strongly Agree
606	SN	I feel like I am under social pressure to go to HCF and have a check up for TB.	Strongly Disagree	1	2	3	4	5	Strongly Agree
607	SN	People who are important to me want me to go to HCF and have a check up for TB.	Strongly Disagree	1	2	3	4	5	Strongly Agree
608	PBC	I am confident that I could go to HCF for TB check up if I want to	Strongly Disagree	1	2	3	4	5	Strongly Agree
609	PBC	For me to go to HCF and have a check up for TB is	Very Difficult	1	2	3	4	5	Very Easy
610	PBC	The decision to go to HCF and have a check up for TB is beyond my control	Strongly Disagree	1	2	3	4	5	Strongly Agree
611	PBC	Whether I go to HCF for TB check up or not is entirely up to me	Strongly Disagree	1	2	3	4	5	Strongly Agree

Part 7: Salient measures of Behavioral intention

Q. no.		Questions	Response format						
701	BB	If I go to health care facility, I feel that I am getting relief from my illness.	Strongly Disagree	1	2	3	4	5	Strongly Agree
702	BB	If I consult health extension worker, I feel they will give me a solution for my illness.	Strongly Disagree	1	2	3	4	5	Strongly Agree
703	BB	If I utilize home made treatment, I believe I got cured from my cough.	Strongly Disagree	1	2	3	4	5	Strongly Agree
704	OE	For me getting relief from my illness.	Extremely undesirable	1	2	3	4	5	Extremely desirable
705	OE	For me consult health extension worker is	Extremely undesirable	1	2	3	4	5	Extremely desirable
706	OE	For me utilizing home made treatment is	Extremely undesirable	1	2	3	4	5	Extremely desirable
707	NB	My families think that I	Should not	1	2	3	4	5	Should
				go to health care service if my illness stays for more than 2 weeks.					

709	NB	My partner(husband/spouse)	does not	1	2	3	4	5	Does
				Need my visiting of health care service if my cough stays for more than 2 weeks.					
710	NB	health extension workers think that(HEW) I	Should not	1	2	3	4	5	Should
				go to health care service if my cough stays for more than 2 weeks.					
711	MC	What my families think I should do, matters me	Not at all	1	2	3	4	5	Very much
712	MC	My close neighbor(friend) approval of Visiting health care service for TB diagnosis is important for me	Not at all	1	2	3	4	5	Very much
713	MC	Fulfilling my partners wish to Visiting health care service for TB diagnosis is important for me	Not at all	1	2	3	4	5	Very much
714	MC	What health extension workers (HEW) think I should do matters me.	Not at all	1	2	3	4	5	Very much
715	CB	TB Suspect Adult with family support gets HCS soon.	Strongly disagree	1	2	3	4	5	Strongly agree
716	CB	TB Suspect Adult lives far from HCF get HCS soon.	Strongly disagree	1	2	3	4	5	Strongly agree
717	CB	TB Suspect Adult who have access to the media visit health care service.	Strongly disagree	1	2	3	4	5	Strongly agree

718	CB	TB Suspect Adult who is not satisfied with TB diagnosis scheduling go to HCS during their illness	Strongly disagree	1	2	3	4	5	Strongly agree
719	CB	TB Suspect Adult who has access to the media goes to HCS soon.	Strongly disagree	1	2	3	4	5	Strongly agree
720	PC	If I have a good family support, it is_____ get HCS soon.	Very less likely	1	2	3	4	5	More likely
721	PC	If my house is far from HCF, it is___to get HCS soon.	Very difficult	1	2	3	4	5	Very easy
722	PC	If I have alternative health care service it is ___to go to HCS.	Very less likely	1	2	3	4	5	More likely
723	PC	If I have access to the media it is _____to go to HCS.	Very less likely	1	2	3	4	5	More likely
724	PC	If I am not satisfied with TB diagnosis scheduling it is_____to go to HCS.	Very less likely	1	2	3	4	5	More likely

Part 8: Elicitation Study In-depth Interview Guide:

1. Is of there anything that makes you feel good regarding utilization of health care service?
2. What are the benefits of using Health care service?
3. What are the Advantages of using Health care service?
4. What are the disadvantages of using Health care service?
5. Do you have additional idea regarding utilization of health care service?
6. Is there any people individually as well as by group who encourage you to use Health care service?
7. Is there any people individually as well as by group who disencourage you to use Health care service?
8. Regading utilization of health care service is there anything you want to associate with others people views?
9. Is there any condition that makes you discourage to visit health care facilities?
10. Is there any barrier that makes you discourage to visit health care facilities?
11. When you go to health care facilities how much do you believe on it?
12. What are your solutions for those things that are barrier to you to not visit health care facilities?
13. Is there anything else you want to add regarding utilization of health care service?

Part 9: Qualitative study in –depth interview Guide:

Direction

Please read the question slowly and give time for the respondent to list her thoughts. Repeat the question and try to clarify, if the respondent does not understand the question at all. Please probes as necessary.

Date of interview: _____/_____/____E.C.

Time interview started: _____:_____

Time interview Ended: _____:_____ Interviewer name: _____

1. How do you perceive the intention of TB suspected adults in your catchment area?
2. What is the most likely advantage (benefit) or disadvantage (harm) of TB Suspected individuals face during visiting health care facility for having a check up for TB?
3. What are the factors that might facilitate or hinder TB Suspected individuals to visit health care facility and having a check up for TB?
4. What is the attitude of people in this surrounding regarding on utilization of health care facility? Specially related with TB?
5. Is there any other treatment method most commonly used by TB Suspected individuals' in the community other than modern antibiotics?
6. What do you think about detection of TB in your district? What it look like when it compare to the expected figure of the national detection of tuberculosis?

Annex II: Afan Oromo Version Questionnaire

Yuunivarsiitii Jimmaatti

Kolleejjii Fayyaa Hawaasaafi Saayinsii Madiikaalaa

Muummee Baruumsa Fayyaa (Health Education)

Qajeelfama Waliigalaa:

Bargaaffiin kun Waraqaa Qo’rannoo Digrii Lamataaf (Mastersiif) Waldhaansa barbaaduu keessatti namoota dhukkuba TB tiin shakkamaniif yaalii fayyaa argchuuf isaan kakaasuu Ilaalchisee xiyyeeffatu guutuuf qophaa’e.

Bargaaffichi Kutaa ja’atti qoodameera. Gaaffilee kallattii qabsiisuuf gaafataman dhiyeessuuf mirga hinqabdu. Hata’u malee, tokkon tokko gaaffilee gaafatamanii guutummaan guutuutti sirriiti ibsuu qabda. Deebii fi kuusaan yaadannoo gaafatamtoota kee iccitii fi ofeeggannoon eegamuu qaba. Hanga danda’ametti qajeefama tokkkoon tokkoo kutaalee bar-gaaffii irratti kennaman hordofi. Ciminni yaalii kee fi ga’umsi kee baay’ee ajaa’ibsifama. Akkasumas, qabatamummaa fi fudhatamummaa bar-gaaffichaa irratti dhibbaa gaarii qabaata.

Bakka Qorannoon itti gaggeeffamu

1, Magaalaa 2, Baadiyyaa

Ganda_____

Garee_____

Lakk.Manaa_____

Mallto_____

Kutaa 1^{ffaa} Odeeffannoo Waliigalaa Hawaasaa

Lakk.	Gaaffii	Deebii	Kodii	Irraa Derbii
101	Umurii			
102	Saala	0.Dhiira 1.Dhalaa		
103	Sab-lamiii	1.Oromoo 2.Amaara 3.Kan biroo (ibsii)_____		
104	Amantaa	1.Ortodooxii 2.Pirootestantii 3.Kaatoolikii 4.Musiliima		
105	Haalli gaa'elaa kee yeroo ammaa maali?	1.Qophaa 2.Fuudheera/ Heerumeera 3.Walhiikneera 4.Narra du'eera		
106	Hojiin kee maalii?	1.Hojjetaa mootummaa 2.Hojii dhabeessa 3.Qotee bulaa 4.Hojjetaa guyyaa 5.Kan biro(ibsi) _____		
107	Galiin maatii kee giddu-galeessan Ji'att I meeqa?	Qarshiin_____		
108	Sadarkaan barumsaa ati irra geese hangam?	1.Hinbaranne 2.Dubbisuu fi barreessuu nan danda'a 3.Sadarkaa tokkoffaa(1-6) 4.Sadarkaagiddu- galeessaa(7&8) 5.Sadarkaa lammaffaa(9-12) 6.Dipiloomaa fi isaa oli		
109	Seenaa tamboo xuuxuu	1.Xuuxee hinbeeku 2.Xuuxaan jiraa 3.Xuuxuu dhaabeera		

Kutaa 2^{ffaa} Yaalii Shakkamttoota TB tiin fudhatamee

Lakk.	Gaaffii	Deebii	Kodii	Irraa Derbii
201	Mallattoon dhukkuba TB dhiyootti yoo isin irratti mula'ateera ta'e,yaalii argattaniittuu?	1. Eyyeen 2. Lakki 3. Hin yaadadhu 4.Deebii hin qabu		
202	Mallattoo dhukkuba TB dhiyeenyatti isin irratti mul'ateef, yaalii akkamii fudhatanii?	1. Ofiin of yaaluu 2. Yaali namoota Qoricha aadaa kennaniin 3. Dhaabbata Fayyaa irraa		
203	Yaaliin isin fudhattan yoo bakka tokko olii ta'e, essaa dursa fudhatani?	1. Ofiin of yaaluu 2. Yaali namoota Qoricha addaa kennani 3. Dhaabbata Fayyaa irraa		
204	Isin yookiin maatii keessan keessaa, kanaan dura namni dhukkuba TB dhan qabamee beeku jira?	1. Eyyeen 2.Lakkii		
205	Gaaffii lakk. 204 irratti gaafatameef , , deebiin kennitan "eyyeen" yoo ta'e yaalii argachuudhaaf essaa dhaqe/dhaqxee?	_____		
206	Malattooleen gurguddon fillannowwan kennaman keessaa, yeroo amma kan isinitt dhagahamu kamii ? (tokkoo ol filachuu hin dandessu)	1)Dhukkuba qomaa 2)gubaa 3)Hir'ina qamaa 4)Utaaloo dhiiga wal-make.		

Kuttaa 3^{ffaa} Haala yaalii dhukkuba TB Argachuudhaaf buffata fayyaa deemuu

Lakk.	Gaaffii	Deebii	Kodii	Irraa Derbii
301	1.Manni jireenyaa keessan buufata Fayyaa irraa hammam fagaata tilmaaman.	Km_____		
302	Manna jireenya keessan irraa gara buufata fayyaa millaan deemuudhaaf, hammam isinitti fudhata?	_____		
303	Yeroo ati armaan olti ibstti kuun mijaa'aadha jettee yaadda?	1. Eyyeen 2. Lakki		
304	Waa'ee dhukkuba TB dhagessanii beektu?	1. Eyyeen 2.Lakki		
305	Deebiin kennitan "eyyeen" yoo ta'e, eenyuu irraa dhagessan? (Tokko-ol filachuu dandeessu)	1.Hojjeetoota Ekisteenshinii fayyaa 2.Hiriyooota irraa 3. Ollaa/ fira irraa 4. Namoota TB dhukkubsatii fayyaan irraa 5. Hojjeetoota fayyaa (ogessota fayyaa) 6.Namoota qoricha gurguran irra (farmasistoota) 7.Ogeessota fayya dhuunfaa		
306	Odeeffannoo waa'ee dhukkuba TB essa argattuu?	1. TV 2 .Raadiyo 3.Gaazeexa/barrulee 4. Fakkiiwwan bakka adda addatti maxxanfaman 5. Kan biroo (ibsa)_____		

Kuttaa 4^{ffaa} Hubannoo Waa'ee TB fi Yaalii isaa

Lakk.	Gaaffii	Deebii		
		1.Eeyyee	2.Lakki	3.Hin beeku
401	Dukkubni TB jarmii TB (maayikoo baaktireemii TBC) jedhamuun dhufa.	1.Eeyyee	2.Lakki	3.Hin beeku
402	TB iin dhalootaan namaa namatti daddarbaa ?	1.Eeyyee	2.Lakki	3.Hin beeku
403	TB iin dadarbaadha?	1.Eeyyee	2.Lakki	3.Hin beeku
404	TB iin fayyuu danda'aa?	1.Eeyyee	2.Lakki	3.Hin beeku
405	TB iin mallattoolee adda addaa kanneen akka qufaa ammaa ammaa torbee sadii oliif, gubaa qaamaa halkanii fi hir`ina ulfaatina qaamaa qabaa?	1.Eeyyee	2.Lakki	3.Hin beeku
406	Dhukkubsataan TB hin yaalamin jiru tokko yoo qufa'e jarmootni TB qilleensa keessa faca'u. kanaafis, TBn nitamsa'aa?	1.Eeyyee	2.Lakki	3.Hin beeku
407	Bakka hojii qillensi ga'aan hinjirreetti TBn daddarbuu danda'aa?	1.Eeyyee	2.Lakki	3.Hin beeku
408	Ifni aduu jarmoota qilleensaan dardarban ga'umsaan ajjeesaa?	1.Eeyyee	2.Lakki	3.Hin beeku
409	Tatamsa'ina TB harmbisuuf, qufaas ta'e haxxiffachuu, yeroo mara huccuu ykn harka lamaaniiin afaanii fi funyaan cuqqaaluudha?	1.Eeyyee	2.Lakki	3.Hin beeku
410	Talaalliin BCG daa'imman TB irraa baraaruuf murtoo sirridhaa?	1.Eeyyee	2.Lakki	3.Hin beeku

Kutaa 5^{ffaa} Safartuu kaka'umsaf amala gara dhabbata fayyaa deemanii TB iif yaali argachuu.

Gaaffilleen armaan gadii kan irratti xiyyeeffatani kaka'umsa gara dhaabbata fayyaa deemtee yaalii argachuu ykn karoorra gara fuula duraa ibsa.

Qajeelfama: Gaaffilee armaan gaditiif,formaatiin deebii kan qoofha'e haala iskeelii,hanga 1-5 ta'ee, hiikni iskeelootaa armaan gaditti ibsameera.

1 Baayy'een Morma	2 Ni morma	3 Yaada kennuu hin daada'u	4 Waliin gala	5 Baayy'een Waliin gala
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Lakk.	Gaaffii	Deebii						
501	Namoonni TB (dhukkuba sombaa) shakkaman gara dhaabbataa buufata fayyaatti ni deemu jedheen eega.	Baayy'een Morma	1	2	3	4	5	Baayy'een Waliin gala
502	Gara buufata fayyaa deemeen TB dhaaf ilaalamuu barbaada.	Baayy'een Morma	1	2	3	4	5	Baayy'een Waliin gala
503	Gara buufata fayyaa deemeen TB ilaalamuuf qophaa'eera.	Baayy'een Morma	1	2	3	4	5	Baayy'een Waliin gala
504	Namoota TB'n shakkamaaniif; gara dhaabbata fayyaa deemanii ilaalamuun _____ dha.	miidhaa qaba	1	2	3	4	5	Bu'aa qabeessa
		gaariidha	1	2	3	4	5	Gaarii mitii
		Ittiin gammada	1	2	3	4	5	Ittii hin gammadu
		Faayidaa hin qabu	1	2	3	4	5	faayidaa qabeessa.
505	Namoonii na biratti fudhatama guddaa qaban gara dhaabbata tajaajila fayyaa akkan deemee TB ilaalamuu yaada qabu.	Baayy'een Morma	1	2	3	4	5	Baayy'een Waliin gala

506	Dhibbaan hawaasuumaa gara dhaabbata tajaajila fayyaa deemeen TB akkan ilaalamuu natti dhaga'ama.	Baayy'een Morma	1	2	3	4	5	Baayy'een Waliin gala
507	Namoonni na biratti fuudhtama guddaa qaban gara dabbata Tajaajila fayya deemeen dhukkuba Sombaa illalamu barbaaduu.	Baayy'een Morma	1	2	3	4	5	Baayy'een Waliin gala
508	Gara dhaabbata tajaajila Fayya deemeen TB ilaalamuu ittin amana.	Baayy'een Morma	1	2	3	4	5	Baayy'een Waliin gala
509	Anaaf gara dhaabbata tajaajila fayyaa deemuun.	baayyee rakkisaa	1	2	3	4	5	baayee salpdhaa
510	Gara dhaabbata fayyaa deemuufi deemu dhiisuun feedhii koo qofa irratti hunda'a.	Baayy'een Morma	1	2	3	4	5	Baayy'een Waliin gala

Kuttaa 6^{ffaa} Safartuu kaka'umsa gara dhabbata fayyaa deemanii TB iif vaali argachuuf amanta Hawaasa keessa jiru/Salient Measures/

Lakk.	Gaaffii	Deebii						
601	Dhukkubbi kootiif gara Dhaabbata Tajaajila Fayyaa deemuun naa wayyeessa.	Baayy'een Morma	1	2	3	4	5	Baayy'een Waliin gala
602	Dhukkubbi kootiif gara Dhaabbata Tajaajila Fayyaa deemuun akka ani Ogessota fayyaa irraa gorsa argadhu na godha.	Baayy'een Morma	1	2	3	4	5	Baayy'een Waliin gala
603	Dhukkubbi kootiif gara Dhaabbata Tajaajila Fayyaa deemuun dhukkubbia kootiif dawaa ykn qoricha akkan argadhuuf na gargaara.	Baayy'een Morma	1	2	3	4	5	Baayy'een Waliin gala
604	Maatiin koo waa'ee ni utaalloo turban lamaa ol narra tureef , yaalii argachuuf essa akkan dhaquu qabu yaadan natti dhagahama?	Baayy'een Morma	1	2	3	4	5	Baayy'een Waliin gala
605	Dhaabbata Buufata Fayyaa dhaquuf, hiriyyaa (oollaa) koo irraa mirkaneeffanaa , argachuuna fayyada?	Baayy'een Morma	1	2	3	4	5	Baayy'een Waliin gala
606	Dhaabbat Tajaajila Fayyaa dhaquudhaaf fedhii Abba manaa/haadha manaa koo guutuun yoo utaaloon koo turban lamaa ol narra ture, barbaachisaa dha.	Baayy'een Morma	1	2	3	4	5	Baayy'een Waliin gala

607	Dhukkubnii koo torbee lamaaf yoo natti ture gara dhaabbata tajaajila fayyaatti akkan deemu maatiin koo ni yaadu	Baayy'een Morma	1	2	3	4	5	Baayy'een Waliin gala
608	Hiriyootni (olloonii) dhiyoon qufaan koo torbee lamaaf turee gara dhaabbata tajaajila fayyaatti deemuu koo	Baayy'een Morma	1	2	3	4	5	Baayy'een Waliin gala
609	Abaan maana koo ykn haati manaa koo qufaan koo torbee lamaaf ture,gara dhaabbata tajaajila fayyaa akkan deemu hin barbaadanu	Baayy'een Morma	1	2	3	4	5	Baayy'een Waliin gala
610	Hojjatoonii Ekisteenshinii fayya qufaan torbee lama ol tureef gara dhaabbata fayya akkan deemu hin yaadany	Baayy'een Morma	1	2	3	4	5	Baayy'een Waliin gala
611	Waan maatiin koo yaadan raawwachun,	Waan tokko illee hin dhimmauu	1	2	3	4	5	Baayyee ittin dhimmaa
612	Olloonna(hiriyooni) dhiyoon koo akkan dhaabbata tajaajila fayyaa TB yaalamuuf kootiif jaallachuun isaanii	Waa tokko illee anaaf barbaachisaa miti	1	2	3	4	5	Baayyee anaaf barbaachisad ha
613	TB,ilaalamuuf,dhaabbata tajaajila fayyaa deemuun	Waa tokko illee anaaf barbaachisaa miti	1	2	3	4	5	Baayyee anaaf barbaachisad ha
614	Waan hojjatoonni Ekisteenshinii fayyaa akkan hojjadhuu goodhu yaadan hojjachuun	Waan tokko illee hin						Baayyee ittin dhimmaa

		dhimmauu						
615	Yoo utaalon koo turban lamaa ol narra ture, Gargaarsa maatii gaarii yoo qabaatte, tajaajila dhaabbata fayyaa argachuudhaaf _____dha.	Mijaa'aa miti.	1	2	3	4	5	Baayy'een mijaa'aa dha.
616	Yoo utaalon koo turban lamaa ol narra ture, Mannii jireenya koo Tajaajila Dhaabata Fayyaa irraa fagoo yoo ta'e, yaalii argachuudhaaf ____ dha.	Salphaa dha.	1	2	3	4	5	Rakkisaa dha.
617	Yoo utaalon koo turban lamaa ol narra ture, Kessumeessa garii yoon argadhe, Dhaabbata Tajaajila Fayyaa deemuudhaaf ____ dha.	Mijaa'aa miti.	1	2	3	4	5	Baayy'een mijaa'aa dha.
618	Yoo utaalon koo turban lamaa ol narra ture, tajaajila fayyaa filannoo qabaadhe, gara Dhaabbata tajaajila Fayyaa deemuun anaaf ____ dha.	Mijaa'aa miti.	1	2	3	4	5	Baayy'een mijaa'aa dha.
619	Yoo utaalon koo turban lamaa ol narra ture, sagantaa sakattai'nsa dhukkuba TB tti gamaduu badhee, gara Dhaabbata Tajaajila fayyaa deemuun anaaf ____ dha.	Mijaa'aa miti.	1	2	3	4	5	Baayy'een mijaa'aa dha.
620	Yoo utaalon koo turban lamaa ol narra turee, qarshiin ittiin yaalamu ga'aa ta'e dhabee, gara Dhaabbata Tajaajila fayyaa deemuun anaaf ____ dha.	Salphaa dha.	1	2	3	4	5	Rakkisaa dha.

Kuttaa 7^{ffaa} Gaaffile dursa qorannoof barbaachiisan (Elicitation Questions)

1. Kennaa tajaajila Fayaa illalchisa wanti si gammachisu ykn sitti hin tolle jiraa?
2. Taajajila Faayaa Fayyadamuu keeti bu'aa ati argattu maal fa'i?
3. Faayidaan tajaajila fayyaa argachuuf maal maal fa'i?
4. Faayidaan tajaajila fayyaa argachuu dhabuu fi hafuun maal maal fa'i?
5. Kennaa tajaajila fayyaa ilaalchisee yaada adda ta'e qabda?
6. Namootini dhuunfaadhnis ta'e gurmuudhaan tajaajila fayya argachuu keetti si jajjabessan jiru?
7. Namootini dhuunfaadhnis ta'e gurmuudhaan tajaajila fayya yeroo fayyadamtu akaa ati tajaajila fayyatii fayyadamu hin qabne filannoo biraa kan sidhiyeesan jiruu?
8. Tajaajila fayyaa argachuu ilaalchisee yaada namoota biraa waliin walqabatee wanta ati ibsitu jiraa?
9. Wantoota ykn haaalloni akka ati tajaajila fayyaa argatu si kakasan jiruu?
10. Wantoota ykn haaalloni akka ati tajaajila fayyaa hin arganne danqaa sitti ta'an jiruu?
11. Tajaajila fayyaa argachuu yeroo barbaaddu hammam itti ammantee gara tajaajila fayya deemta?
12. Wantooni tajaajila fayyaa argachu kee irratti danqaa sitti ta'aniif, fuurmaani ati qabdu jiraa?
13. Tajaajila fayyaa argachuu illalchisee yaadi adda ta'e sammuu keetti dhufu jiraa?

Kutaa 8^{ffaa}:Qajeelfama gaafii deebii Qoranichaa(in –depth interview Guide)

Gaaffilee Ogeessota fayyaa yaalii DOT's kennaniif dura bu'aa ittisaa fi to'annoo TB anaa sibu sireefiin kan deebi'an.

Qajeelfama

Gaaffilee armaan gadii yeroo kennuudhaan xiyyeeffannoon dubbisi.Gaafichi yoo ifa ta'uufii baate irra deebiin gad-faggeenyaan ibsiif.

Guuyyaa gaafatame:_____/_____/_____ALH

Yeroo gaaffiif deebiin itti jalqabe_____:

Yeroo gaaffiif deebiin itti raawwate_____:

Abbaa gaaffii fi deebii taasise_____

- 1.Namota dhukkuba sombaa(TB) tiin shakkaman gara dhaabbata tajaajila fayyaa yeroo dhufan rakkoon isaan qunnamu maaliig?Fayidaan isaamoo maali?
- 2.Wantootini ykn haalonni namoota dhukkuba sombaa tiin shakkaman akka isaan gara dhaabbata fayyaa deemanii yaalii akka isaan hin arganne godhu maali?
- 3.Ilaalchi namoota naanno kanaa itti fayyadama dhaabbata fayyaaf qaban Maali?Akkasumas kennaa sagantaa DOT's ilaalchisee?
- 4.Yaaliin ykn gaargaarsi hawaasa Keessatti dhukkuba kan ilaalchiisee taasifamu jiraa?
- 5.Qorannoon laaboraatoori TB ilaalchisee Kan annaa keessanii maal fakkaata.Haala biyyaa waliin yeroo madaalamuu hoo maal fakkaata?