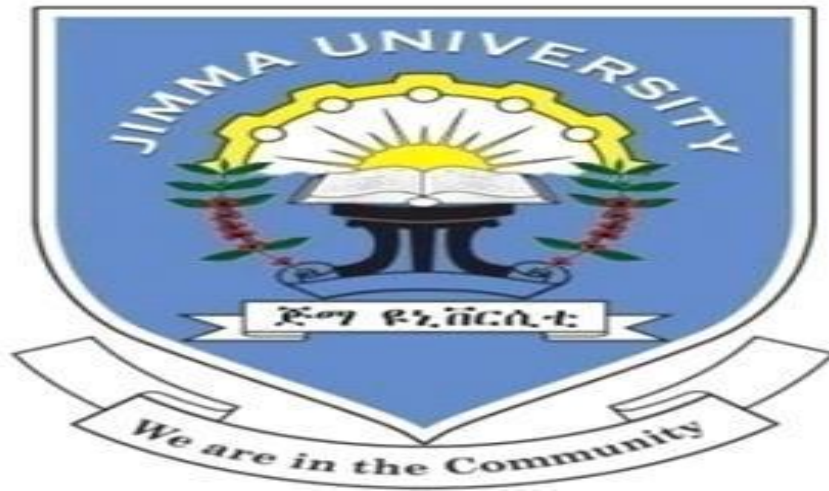


Knowledge, Attitude and Perception Towards Multi-drug Resistance
Tuberculosis Among Tuberculosis Patients in Iluababor Zone South
west Ethiopia



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A research thesis to be submitted to Department of Health, Behavior,
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Assessment of Knowledge, Attitude and Perception towards Multi-Drug
Resistance Tuberculosis among Tuberculosis Patient in Iluababor zone
South West Ethiopia

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APPROVAL SHEET

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ABSTRACT

Background: Multidrug resistance Tuberculosis (MDRTB) is a major challenge globally and developing countries like Ethiopia. High mortality, risk and other contributing factors such as knowledge , attitude and perception contributed for rise of MDR-TB.

Objectives: To assess knowledge, attitude and perception towards Multi-Drug Resistance Tuberculosis among Tuberculosis patients in Iluababor Zone,2021.

Method: Institutional based cross-sectional study was conducted in Iluababor Zone using a multi-stage sampling technique. Data was collected from May to June 30, 2013; E.C. Data was entered into Epi data version 3.5.1 and exported to SPSS version 23 for analysis. Descriptive statistics such as mean, standard deviation, and percentage to describe the study population concerning relevant variables. The association of knowledge, attitude, perception and socio-demographic variables toward MDRTB was done using multivariable logistic regression analysis. Variables with a P-value <0.05 in the final fitting model were declared to be associated with the outcome variable.

RESULTS: Six hundred four Tb patients participated in the study, making the response rate 99.5%. Overall 38.6% of TB patient had good knowledge about MDRTB and (63.6%) unfavorable attitude of TB patient toward MDRTB and low perceived susceptibility (57.8%) and (57%) of them had high perceived severity. knowledge of MDRTB ,Those who were secondary level education and above had (AOR=6.5,95%CI= (3.8,10.9) times higher than the odds of TB patients who did not attend any level of education. perceived severity of MDRTB those who were male had MDRTB (AOR=6.230, 95%CI = (4.17, 9.3) compared to female. perceived susceptibility of MDRTB and those who were age “between” 18-35 had (AOR=1.99), 95%CI = (1.07, 3.72) compared to above 36years.

Conclusion and recommendation: This study found more than one-third of the participants had good knowledge ,favorable attitude and high perceived susceptibility,whereas more than half of them had high perceived severity toward MDRTB respectively. Participants’ education level, sex, was factors associated knowledge. Specific attention should be given for female TB patients regarding awareness creation on MDR-TB. Keywords: knowledge, Attitude, perception.

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Acronyms

AFB	Acid fast bacilli
DOTS	Direct observational therapy
DR(TB)	Drug resistance Tuberculosis
EPTB	.....	Extra Pulmonary Tuberculosis
FNA	.....	Fine needle aspiration
HIV	.....	Human immune deficiency virus
MDR (TB)	.....	Multidrug resistance Tuberculosis
N TLC P	.....	National Tuberculosis and leprosy control program
PTB	.....	Pulmonary Tuberculosis
TB	.....	Tuberculosis
TB/HIV	.....	Tuberculosis/ Human immune deficiency virus
WHO	.....	World health organization
XDR (TB)	.....	Extensive drug resistance Tuberculosis

CHAPTER -One: INTRODUCTION

1.1 Background

Global tuberculosis (TB) control and prevention efforts are encountering the additional challenge of multidrug-resistant TB (MDR-TB). Bacteria that cause MDR-TB are resistant to at least isoniazid and rifampicin(1).MDR-TB is a major public health problem and is an obstacle for national and global TB control programs. Globally, nearly half a million people are estimated to have MDR-TB annually(2).

The WHO report from Malaysia on MDR-TB in 2011 and 2012. Of 10,537 cases suspected and tested for MDR-TB in 2011, 141 cases were confirmed to be MDR-TB. Of 9,132 suspected cases of MDR-TB in 2012, 74 were laboratory confirmed MDR-TB cases. All of the cases had commenced MDR-TB treatment. This number was expected to increase in 2013, due to a lack of adequate knowledge about the disease in the community and lack of knowledge of the risk factors associated with the disease(3)

MDR-TB is a man-made problem. It is costly, deadly, debilitating and a major threat to the current control strategies. Delayed presentation is considered a reason for the growing burden of TB in developing countries. One of the goals of the 'Stop TB' campaign is to make tuberculosis diagnosis and care more widely available and affordable. People can only utilize these facilities if they have knowledge of the symptoms of the disease, seek early care, and adhere to treatment.

Early diagnosis and adherence to treatment may decrease the emergence of drug-resistant strains (4). The cost of treating an average MDR-TB patient is 50-200 times that of treating a drug-susceptible TB patient(4). In the developing world, like Ethiopia, many factors such as the prevalence of human immunodeficiency virus (HIV) infection, low socioeconomic status, and inadequate diagnostic and treatment facilities greatly intensify the impact of MDR-TB(5).

Due to inadequate knowledge and attitude patients generally discontinue treatment before completing the therapeutic regimen. The aftermath of incomplete regimens can be adverse and can lead to the development of multi-drug resistance Tuberculosis. Inadequate knowledge and perception of the disease's cause, spread, and care increases patients' fear of stigmatization, making them reluctant to seek proper treatment. The propagation of disease is aided by this social apprehension (6).

Lack of information about MDR tuberculosis care and the effects of failing to comply leads to inadequate adherence, which leads to failure(6). Lack of information about MDR tuberculosis care and the effects of failing to comply lead to inadequate adherence, which leads to an ineffective monitoring program. (7). Multi-drug Resistant Tuberculosis (MDR-TB) is found to be a greater public health problem both in developed and developing countries.

Ethiopia has one of the highest rates of MDR-TB in the world and as a high-risk environment. MDR-TB is becoming a significant threat to Ethiopia's tuberculosis prevention programs(8). So, no study has been conducted in this study area to assess the level of knowledge attitude and perception of TB patients about MDR-TB. Hence, the purpose of this study was to assess the knowledge attitude and perception of TB patients of direct observation therapy program towards MDR-TB in health centers of ilubabor zone, Ethiopia. The information generated can hopefully provide baseline data that will stimulate community-based studies.

1.2 Statement of the problem

Tuberculosis (TB) remains a major cause of morbidity and mortality worldwide, particularly in Asia and sub-Saharan Africa. Multidrug-resistant TB (MDR-TB) is particularly difficult to treat. According to the World Health Organization (WHO) 2017 global tuberculosis report, an estimated 4.1% of new TB cases and 19% of previously treated cases have MDR-TB(9).MDR-TB is a major public health problem and is an obstacle for national and global TB control programmers.

Globally, nearly half a million people are estimated to have MDR-TB annually(2). Multi-drug Resistant Tuberculosis (MDR-TB) is found to be a greater public health problem both in developed and developing countries. Ethiopia is one of the high MDR-TB burden countries in the world. Although several studies were done to identify the determinants of MDR-TB, the reported findings are heterogeneous across the world (10).

Multidrug-resistant tuberculosis(MDR-TB) is becoming a major threat to tuberculosis control programs (8). The rising burden of tuberculosis in developing countries is attributed to delayed presentation(11).Studies have identified that there are misconceptions and limitations of knowledge about MDR-TB among TB patients. The lack of knowledge about the cause, mode of trans-mission, and symptoms, as well as appropriate treatment of TB within communities also contribute to poor adherence to TB treatment and/or long delay in diagnosis(12).

The study showed that none of the patients' characteristics and socio-demographic factors had an association with the completion of TB treatment. Instead, knowledge and perception of TB played a major role in treatment compliance (13). To avert this problem WHO recommend health information sessions for MDR-TB patients at least three times before starting care, (14). Ethiopia is one of the high TB/HIV and multidrug-resistant TB (MDR TB) burden countries, there is still a large gap in knowledge ,attitude and perception about drug-resistant TB in the country (13).

The study conducted Eastern Cape Province, South Africa results of this study showed that respondents had unfavorable attitudes about Drug Resistant TB. Cultural beliefs, value and norms affect health-seeking behavior. Social isolation, prejudice, and

unfavorable attitudes or views that people have about TB make people hide and avoid seeking medical assistance early enough(15).

Due to inadequate knowledge and attitude patients generally discontinue treatment before completing the therapeutic regimen. The aftermath of incomplete regimens can be adverse and can lead to the development of MDR TB. Inadequate knowledge attitude and perception about the cause, spread, and treatment of the disease leads to increased apprehension of stigmatization, and patients become averse to securing proper treatment (6). Residence, age, education status, socio-economic status, access to media were factors associated with MDR-Tb knowledge (16). Since there is only little study Conducted regarding knowledge, attitude and perception toward MDRTB in Ethiopia particularly in Ilubabor zone , the aim of this study is to assess knowledge attitude and perception toward MDR-TB among TB patients on DOTS.

1.3 Significance of the study

This research's findings may contribute to the formulation of strategies that may improve MDRTB awareness and perception among the population. This study will inform Ilubabor zone health institution BCC (behavioral change communication) strategies for treatment, prevention, and control of Tuberculosis. The information generated can hopefully provide baseline data that will stimulate community-based studies. The results of this study may also be used by policymakers and other stakeholders to come up with interventions that may improve the health status of the population, especially, reduction of TB infections and deaths in the Ilubabor zone.

CHAPTER -Two: LITERATURE REVIEWS

2.1 Knowledge towards Multi-Drug Resistance Tuberculosis among TB patient

About 3.7% of new tuberculosis (TB) patients in the world have multidrug-resistant strains (MDRTB). Levels are much higher in those previously treated – about 20%. The frequency of MDR-TB varies substantially between countries. Around 9% of MDR-TB cases also have resistance to two additional drug groups(17).

The disease burden caused by TB is falling globally, in all WHO regions, and in most countries, but not fast enough to reach the first (2020) milestones of the End TB Strategy. Nonetheless, these efforts have been jeopardized by multidrug-resistant TB (MDR-TB). In 2015, there were an estimated 480,000 new cases of multidrug-resistant TB (MDRTB) and an additional 100,000 people with rifampicin resistant(RRTB) who were also newly eligible for MDR-TB treatment (WHO, 2016). According to the WHO report, Ethiopia also had an estimated 1700 and 550 MDR-TB cases among notified new and retreatment pulmonary TB cases in 2011, respectively, an important factor that can contribute to the development of drug-resistant TB strains was lack of knowledge (12).

A study conducted in the center of Guru Gram Haryana reveals that the Knowledge score of tuberculosis patients regarding multiple drug resistance tuberculosis was 64.16% of patients were having below-average knowledge, 33.5% of patients were having average knowledge and only 3.33% of patients were having good knowledge. It indicated that tuberculosis patients have below-average knowledge regarding multiple drug- resistance tuberculosis. Their knowledge score of patients was a significant association with the type of family, place of residence, education, family income, and previous knowledge gained about MDR TB(12). In a study conducted in East Nusa Tenggara, none of the socio-demographic factors attributed to treatment default yet lack of knowledge and incorrect perception of MDRTB prior therapy(17).

The study conducted in South Africa Eastern Cape Province shows that the respondents had poor knowledge and awareness of the Drug-Resistant TB transmission modes and methods some of the respondents did not know that Drug-Resistant TB was not a

hereditary disease spread through blood and transmitted through, witchcraft, and these results clearly illustrate that a significant proportion of the study participants still lack general knowledge about certain aspects of the disease(15). The study conducted in Lesotho, the overall knowledge of MDR TB in the general population of Lesotho was (59.9%)(18).

A significant association was found between good knowledge and attending tertiary level of education, gender, income of respondents' family, and sleeping practice. Nearly three-fourths (73.5%) of TB patients had a favorable attitude towards MDR-TB. Occupational status and sleeping practices were significantly associated with the attitude of the TB patients(19). A study conducted Aung San MDR-TB Clinic (Yangon) occupational status, number of counseling and health education sessions, and getting IEC materials were significantly associated with knowledge level(20).

The study conducted in Addis Ababa shows that 55% of TB patients had Good knowledge about MDRTB. Study conducted in Nigeria revealed that 18.4% Tb of patients had good knowledge of MDR-TB(12). According to a study conducted in Addis Ababa, TB patients' knowledge of MDR-TB indicated that 55% of TB patients good knowledge. There was a relation between having and getting to a tertiary level of education, gender, and income of respondents'(14).

The study conducted in Addis Ababa revealed that the level of knowledge about MDR-TB was positively associated with the educational status of TB patients. The odds of good knowledge in TB patients attended tertiary level of education were 4.3 times higher than the odds of TB patients who did not attend any level of education or illiterates. This was attributed to relatively better awareness about MDR-TB and better access to health information in those attended tertiary level of education in Addis Ababa, Ethiopia(12).

2.2 Attitude

The study conducted in Kenya in relation to attitude, 54% knew TB was a serious disease, 62.1% perceived that they were vulnerable to MDR TB. 68.8% disagreed that TB was a serious disease, 43.3% said that MDR TB cases were discriminated against and

29.6% strongly agreed that TB was associated with HIV/AIDS. Respondents' perception was significantly associated with marital status and the awareness on TB (21).

The study conducted Eastern Cape Province, South Africa results of this study showed that respondents had unfavorable attitudes about Drug Resistant TB. Cultural beliefs, value and norms affect health-seeking behavior. Social isolation, prejudice, and unfavorable attitudes or views that people have about TB make people hide and avoid seeking medical assistance early enough(15).

A study conducted in Addis Ababa shows, 76.1% respondents agreed that increasing the prevalence of MDR-TB in Ethiopia has a high impact in social, political, and economic development, whereas 18.0% respondents did not agree. The 70.1% respondents agreed on taking TB treatment by direct observation of health personnel is an important way of developing MDR-TB which has a less favorable attitude(12).

The study in Addis Ababa also showed a significant relationship between the attitude of respondents about MDR-TB and monthly family income. TB patients with an average monthly family income of less than or equal to 585 Ethiopian Birr and 586-1650 Ethiopian Birr had more favorable attitudes than those who had a monthly family income of ≥ 3146 Ethiopian Birr. On the other hand, the attitude of respondents about MDR-TB was not significantly associated with gender, marital status, and educational status of TB patients(12).

2.3 PERCEIVED SUSCEPTIBILITY AND PERCEIVED SEVERITY

The study conducted in south Africa found that despite the high perceived severity among respondents about Drug Resistant TB and the lethal nature of the Drug Resistant TB if left unattended (15). A study conducted in Brazil shows that MDR-TB has an impact on affected individuals the information arose from the perceived severity to MDRTB and its perceived susceptibility "because people are dying".

Participants expressed a high level of fear and anxiety about the possibility of infection by MDRTB because it requires prolonged periods of isolation from social life and, in its most severe form, can be fatal. And allows comprising the meaning of becoming ill through their perceptions and how the subjective weight that the disease has for each

individual seems to be related to moments of tension, anxiety and fear during the treatment until the cure. The disease exposes affected individuals as fragile, affecting the way of living, changing the established order, and changing their relationships with other people(21).

2.4 Factors associate with Knowledge towards Multidrug Resistance Tuberculosis among Tuberculosis patient

The level of awareness about MDR-TB was directly related with the educational status of TB patients, according to a study conducted in Addis Ababa. The odds of good knowledge in TB patients who attended tertiary level of education were 4.3 times higher than the odds of TB patients who did not attend any level of education or illiterates. This was attributed to relatively better awareness about MDR-TB and better access to health information in those who attended tertiary level of education (28.4%) in Addis Ababa, Ethiopia(16).

2.4.1 Socio-demographic factors

In the study conducted in Lesotho, the overall knowledge of MDR TB in the general population of Lesotho was (59.9%). There was a significant difference between female and male respondents regarding knowledge about MDRTB (67.0% vs. 41.8). Female respondents were relatively aware of MDRTB, knew about the correct cause and mode for transmission of MDRTB, and knew that MDRTB is a curable disease compared to male respondents. sex, age, educational level, formerly married or cohabitated, and occupation were strongly associated with respondent knowledge of MDRTB(18).

A study conducted in Guru gram Haryana shows that knowledge score of patients was significant association with type of family, place of residence, education, family income and previous knowledge gained about MDR TB(22). Study conducted in Addis Ababa concerning their educational status with these study the majority of 147(34.8%) of the MDRTB patients attended primary level followed by the tertiary level of education which accounted for 140(33.2%).

2.4.2 Health and Institution related factors

The study conducted in South Africa also found that 23% of the respondents stated that they will go to a clinic or hospital when self-treatment does not work, while 27% indicated that they will never seek medical assistance. The majority of the respondents indicated that they will visit health care facilities as soon as they realize they have MDRTB, TB suspects usually presented themselves late to seek medical assistance because they first try to seek help from traditional healers, because they believed that MDRTB was caused by witchcraft, 'evil eye' and Satan of the respondents prefer using other alternatives rather than public health institutions. Such preferences might be due to lack of confidence and mistrust with public health institutions, and that might affect negatively on MDRTB control program and the continuity of care.(15)

The study conducted in the Somali Pastoralist Setting of Ethiopia showed poor knowledge of MDRTB symptoms and expectation of self-healing were individual-related determinants. Mild-disease and manifesting symptom were disease-related, and >1 h walking distance to nearest facility and care-seeking from traditional/religious healers were healthy system-related determinants of patient delay > 30 days (23). The study conducted in Addis Ababa the 296(70.1%) respondents agreed on taking TB treatment by direct observation of health personnel is an important way of developing MDR-TB which has a less favorable attitude about MDRTB compared with the study conducted on Amhara region in Ethiopia showed that 95.7%.(12).

2.4.3 Source of information

A study conducted in East Nusa Tenggara lack of access to media, are significantly associated with low MDR tuberculosis knowledge (17). A Study conducted in south Africa participant's Sources of Drug Resistant Tuberculosis information, That more than a quarter respondents revealed that television and radio (34.25%) and television radio and internet (30.25%) were their main sources of Drug Resistant TB information, whereas, only (14%) mentioned HCW and teachers as their source of Drug Resistant TB information.(15)

A study conducted in Myanmar Aung San MDR-TB Clinic (Yangon) revealed that 66.4% had knowledge scores. number of counseling and health information sessions, and getting IEC materials were significantly associated with knowledge level(14).The study conducted in South Africa found that the main source of Drug Resistant TB information was radio and television among the majority of research respondents(15). A study conducted in Addis Ababa from all TB patients who have the favorable attitude, 177(57.1%) TB patients have not heard about the disease from health care workers which revealed inadequate or incomplete information passed on to the TB patients by HCWs would create wrong perceptions in them or strengthen the patients' perceptions which were similar with the study conducted by Delta State, Nigeria(12).

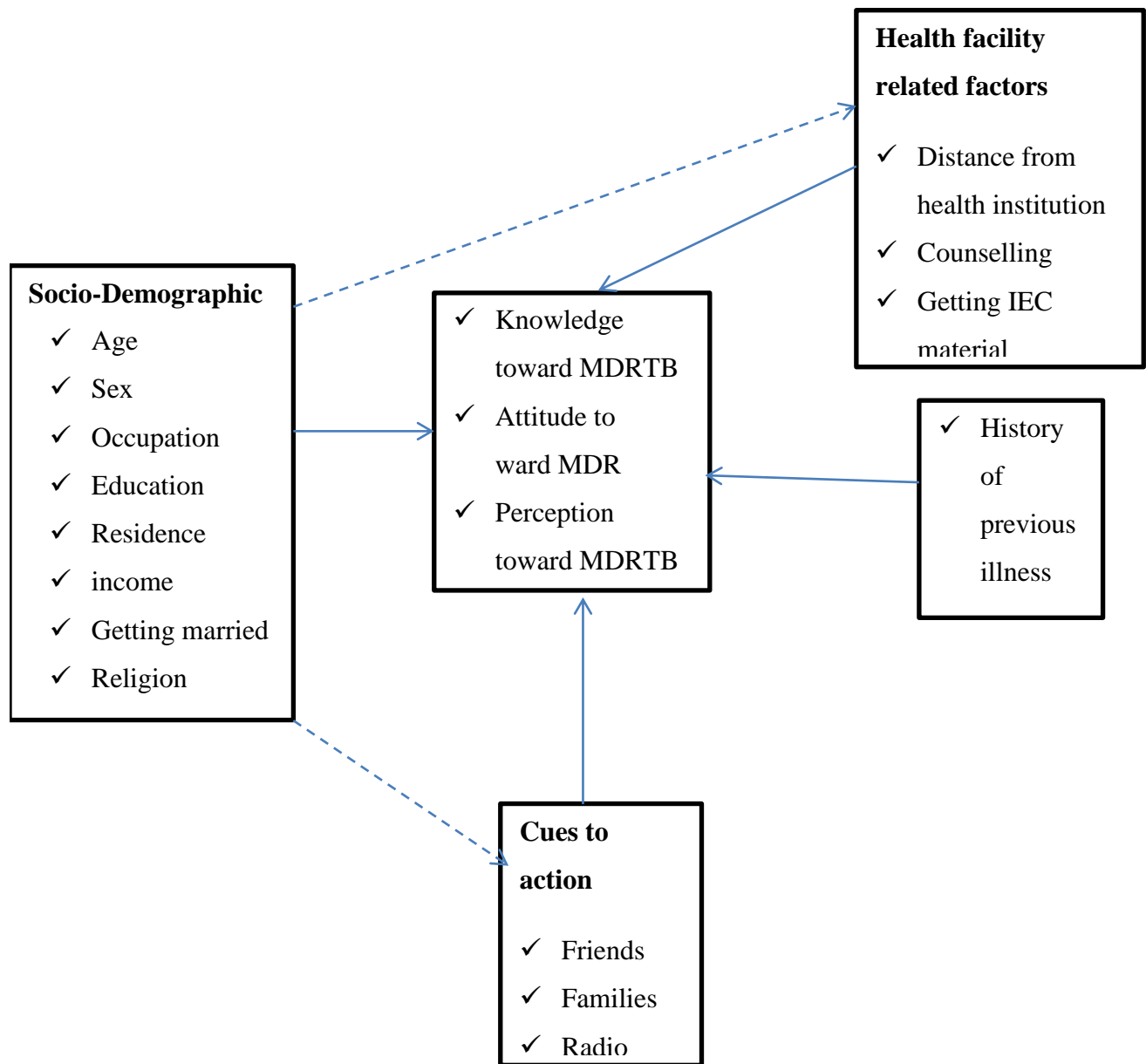


Figure 1: shows the conceptual framework for Assessing knowledge, Attitude and Perception toward MDR TB among TB patients, adapted from different literature.(12)

CHAPTER Three: OBJECTIVES

3.1 GENERAL OBJECTIVE

- To assess knowledge, attitude and perception toward multi-drug resistance tuberculosis among Tuberculosis Patients,2021.

3.2 SPECIFIC OBJECTIVE

- To assess the knowledge toward multi-drug resistance tuberculosis among Tuberculosis Patients.
- To assess the attitude toward multi-drug resistance tuberculosis among Tuberculosis Patients.
- To determine perceived severity of MDRTB among TB patients.
- To identify perceived susceptibility of TB patients toward MDRTB.

CHAPTER four: METHODS AND MATERIALS

4.1. Study area and period

Illuababor Zone is one of the 21 Zones in the Oromia Region of Ethiopia. The administrative center of the Illuababor zone is Mettu. Mettu is located 600 km from the capital of Addis Ababa and according to the data obtained from the Illuababor zone health office the total population of the zone is 991257 and, There are 2 hospitals 41 health centers providing health services, and health service coverage of the zone is 93%. The study would be conducted in 22 health centers of seven woredas. The study would be conducted from May to June 30, 2021, in Illuababor Zone southwest Ethiopia.

4.2 Study design

An institution-based cross-sectional quantitative study was conducted.

4.3- Population

4.3.1 Source population. All TB patients age greater than 18 years who were on DOTs at Illuababor zone health facilities from May 2021 to June 30, 2021.

4.3.2 Study population. TB patient age greater than 18 years those selected by systematic random sampling from TB registration who were on DOTs during the study period from May 2021 to June 30, 2021, at the selected health facilities in Illuababor zone health facility (health centers) was the study population.

4.4- Eligibility criteria

4.4.1. Inclusion criteria: All TB patients age greater than 18 years old who were on DOTs during the study period would be included in the study.

4.4.2. Exclusion criteria: children below 18 years and mentally and severely ill TB patient and also those who refuse to participate in the study were also excluded from study.

4.5- Sample size determination and procedure

4.5.1. sampling size determination

Sample size determined using single population proportion formula by considering 95% CI with 5% margin of error and the proportion of poor Knowledge of TB patient 45% from the previous study. The proportion of unfavorable attitude of TB patient 26.5% from the previous study we had took the largest proportion which is poor knowledge of TB patient 45%. The minimum required sample size was calculated using a single population proportion formula.

Sample size determination

For $p=45\%$ (12)

The minimum required sample size was calculated using a single population proportion formula.

We used a 5% margin of error and a 95% confidence interval. So that, our sample size was determined as: -

$$n = \frac{(z_{(1-\alpha/2)})^2 \times P}{d^2}$$

Where, n=the minimum sample size.

P=an estimated knowledge for the population.

d=margin of sampling error tolerated.

$Z_{1-\alpha/2}$ is a standard normal variable at $(1-\alpha)\%$ confidence level & $\alpha = 5\%$ i.e. With 95 CI

$$n = \frac{(1.96)^2 \times 0.45 (1-0.45)}{(0.05)^2} = 380$$

Design effect multiplied by 1.5 then

$380 \times 1.5 = 570$; therefore by adding of non respondent rate the final result will be $=627$

*Overall sample size applied for this study was $=627$

4.5.2 Sampling technique

To reach the required sample size multi-stage sampling was used. Ilu Aba Bor zone has a total of 14 woredas, of these 7 woreda was selected by simple random sampling. All health centers found in the selected woredas was included in the study. Based on TB clinic registration and quarterly report of TB patients, the monthly flow was calculated for all selected health center, then the daily flow number of TB clinic visit of respondents was estimated, then finally the required subject was selected using systematic random sampling with the interval of every two patient visiting TB clinic.

Study subjects were recruited in the study by every 2 patients in TB clinic visits.

$$K = N/n \quad 1262/627 = 2$$

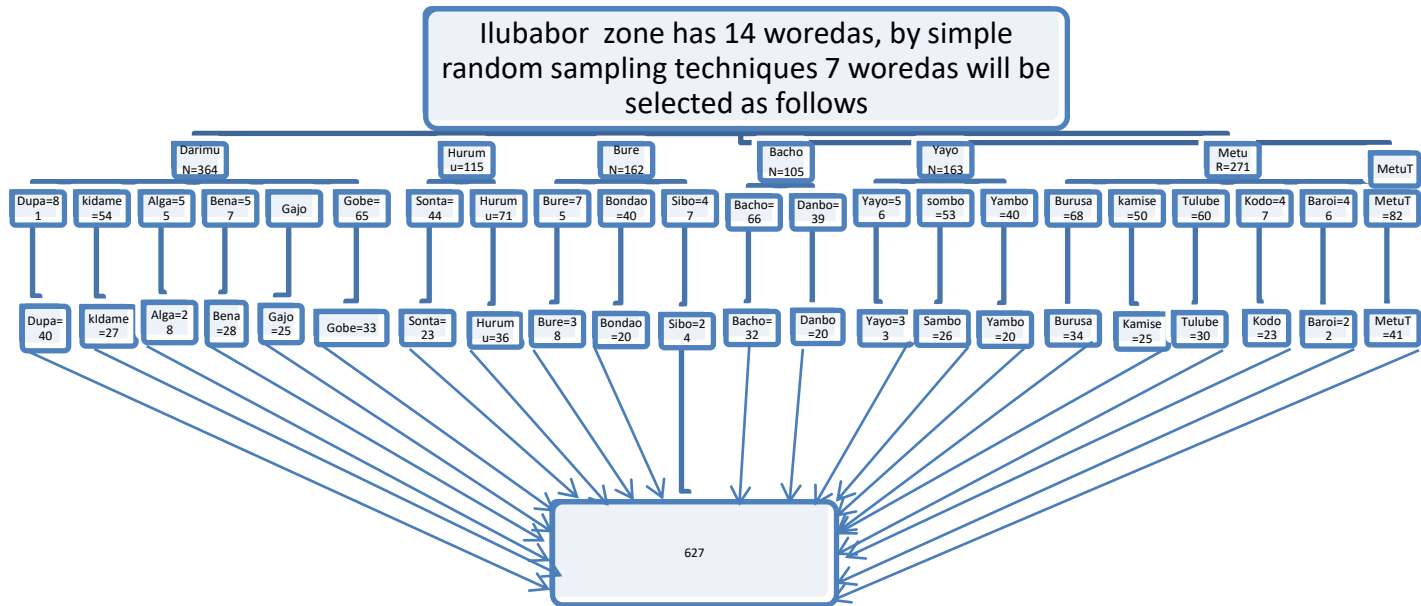


Figure 1 Schematic presentation sampling procedure

4.6.1 Dependent variables

Knowledge, Attitude , Perceived Susceptibility, Perceived severity

4.6.2 Independent Variables

Socio-demographic characteristics: age, sex, housing condition, Ethnicity, educational status, marital status, Occupational status, Religion, income, residence.

Cues to action: Information, radio, TV, social media, families, friends.

Institutional factors: distance from the health facility.

Health care provider:counseling, IEC, health information

4.7 Operational definition and measurement

- **Knowledge**__ The facts of being aware of MDRTB,Familiarity with information of MDRTB, understanding and skills that a person acquired through experience or education (24).
- Knowledge about MDR tuberculosis refers to, the basic and correct understanding of the disease, including the cause of the disease, signs and symptoms of disease, mode of transmission and preventive methods. Knowledge of the infectiousness of MDRTB is the basis for individuals taking protective measures to avoid becoming infected, or transmitting it to others for those with active disease.

Good Knowledge-respondent score above or equal to the mean score of knowledge- related questions.

Poor Knowledge - respondent those score less than the mean score of knowledge related questions.

Knowledge of respondents toward MDR TB was measured using dichotomized yes/no 11 items. Then, the total knowledge score is calculated for all respondents and computed.

Attitude: *A tendency of mind or of a relatively constant feeling towards MDRTB(24).*

A way of perception/opinion about MDRTB or a Way of behaving towards MDRTB.

Favorable Attitude - respondent score above or equal to the mean score of attitude-related questions.

Unfavorable Attitude – respondent those score less than the mean score of attitude-related questions.

Respondents were asked five questions (eg. . people with MDRTB get discriminated against in the community,) to describe their level of agreement in a five scale response

format from “strongly disagree” to “strongly agree”. The 5-point Likert scale response options, scored from 1 to 5, were strongly disagree, disagree, neutral, agree, and strongly agree. Subscale scores were obtained by summing item scores and dividing by the total number of items.

Perceived susceptibility: one’s belief regarding the chance or risk of getting MDRTB(25).

High perceived susceptibility-If respondent score above or equal to the average score, it indicates high perceived susceptibility.

Low perceived susceptibility-If respondent score below the average, it indicates ,Low perceived susceptibility

Respondents will be asked seven questions (eg. If I get MDRTB, my life will be destroyed) to describe their level of agreement in a five-scale response format from “strongly disagree” to “strongly agree”. The 5-point Likert scale response options, scored from 1 to 5, were strongly disagree, disagree, neutral, agree, and strongly agree. Subscale scores were obtained by summing item scores and dividing by the total number of items.

Perceived severity: one’s belief of how serious MDRTB and its sequelae are (25).

High perceived severity-If respondent score above or equal to the average score, it was indicative of high perceived severity.

Low perceived severity-If respondent score below the average, it was indicative of low perceived severity.

Respondents were asked five questions (eg. someone with MDRTB will eventually die from the disease,) to describe their level of agreement in a five scale response format from “strongly disagree” to “strongly agree”. The 5-point Likert scale response options, scored from 1 to 5, were strongly disagree, disagree, neutral, agree, and strongly agree. Subscale scores were obtained by summing item scores and dividing by the total number of items.

4.8- Data collection

Data sources were TB patients attending Iluababor zone health institution visit TB clinic. Most of the interviews by using structured and pre-tested questionnaires. The questionnaires was prepared in English to assess socioeconomic status, knowledge, Attitude, perceived severity, Perceived susceptibility as well as the service and provider information towards TB patients and translated to Afan Oromo and Amharic later on the results was translated to English.(26)(25)(27)

Cues to action: strategies to activate one's "readiness" to use MDRTB prevention practices. a 4-item agreement in a five-scale was used to assess participant's exposure to cues that could influence them to engage in MDRTB practice. The scale was developed. Typical items as follows: "I have looked for information about MDR TB in general" to describe their level of agreement in a five-scale response format from "strongly disagree" to "strongly agree". The 5-point Likert scale response options, scored from 1 to 5, were strongly disagree, disagree, neutral, agree, and strongly agree. Subscale scores were obtained by summing item scores and dividing by the total number of items.

4.9- Data quality control

To assure the quality of data one-day training was given for six data collectors and three supervisors by the principal investigator on how to fill and refill data on the prepared questionnaires. The result would accurately been recorded, documented, and reported. The assessment of knowledge, Attitude and Perception with MDRTB among TB patients was collected using pre-structured questionnaires under the strict supervision of principal investigators.

The completed questionnaire was checked every day during data collection for completeness, clarity, and consistency by the principal investigator. Any mistake detected was corrected immediately questionnaires were tested on 5% of the sample size those excluded from the final study and possible corrections was made in Iluababor zone health institutions(health centers)before starting data collection..

4.10- Data processing and analysis

All data was checked, coded, and entered into Epi-info version 3.1 and exported into SPSS version 23 software packages for analysis. Descriptive statistics was present in the form of tables, figures, and text using frequencies and summary statistics such as mean, standard deviation, and percentage to describe the study population concerning relevant variables. P-value < 0.25 was taken as a cutoff point to select eligible variables for the multiple regression analysis. The degree of association between dependent and independent variables was assessed using an odds ratio with a 95% confidence interval and p value < 0.05 was considered as statistically significant. The adequacy of the models to predict the outcome variables would check using the Hosmer Lemeshow test.

4.11- Ethical consideration

The ethical review committee of Jimma University institute of health faculty of health Sciences was approved the Protocol for this study, department of health, behavior, and society was wrote a letter of approval to the Illubabor zone health office and the ethical clearance reference number is IHRPGY/200/21. Written Informed consent was given to the participants before data collection. The data was collected while TB patients visit the TB clinic (on DOTs) at the Health center and the data collectors communicate with a health professional in the TB clinic the health professional sent the patient to him/her, regarding both covid -19 and TB disease the interviewers wore facemask and physical distance was kept between data collector and TB patients.

4.12- Dissemination

The research result will be submitted to Jimma University Institute of Health, Faculty of Health Sciences, department of health, behavior, and society and disseminated to the Ilu Ababor zone health office.

CHAPTER Five: RESULTS

5.1. Socio-demographic characteristics of participants

Six hundred four respondents in Ilubabor zone health facilities participated in the study, making the response rate 99.5%. The mean age of respondents is 40.4 with standard deviation 0.49. Majorities 492 (81.5%) of them were married and 5(0.8%) divorced, didn't attend formal education (40.1%) and primary 159(26.3%) regarding place of residence live in rural area (70.4%) and urban 179(29.6)

Table 0-1 Socio-demographic characteristics of adult tuberculosis patients

Socio-demographic Variable	Categories	Frequency	Percent
Age	18-35	360	40.4
	36 and above	244	59.6
Sex	Male	312	51.7
	Female	292	48.3
Marital status	Single	107	17.7
	Married	492	81.5
	Divorced	5	0.8
Education	Did not attend formal education	242	40.1
	Primary	159	26.3
	Secondary & abov	203	33.6

Religion	Orthodox	367	60.8
	Muslim	156	25.8
	Protestant	81	13.4
Ethnicity	Others		
	Oromo	489	81.0
	Amhara	113	18.7
	Others	2	0.3
Monthly income	<500	63	10.4
	500-1000	10	1.7
	>1000	531	87.9
Occupation	self-employee	529	87.6
	Unemployed	75	12.4
Place of residence	Urban	179	29.6
	Rural	425	70.4

5.2 Source of information about MDRTB among TB patients

Of 604 respondents all of them 604 (100%) had heard about MDRTB. The major sources of information for them were found to be health care provider 529(87.6%). The remaining friends and neighbors 18(3%) and 27(9.4%) respectively. The channel of information they receive MDRTB information were found to be television 60(9.9%), radio 473 (78.3%), written material 62 (10.3%) and other information source 9(1.5).

All respondent were asked about their cues to action about MDRTB in this study regarding cues to action of TB respondents in study area 57 (9.4%) of TB about patient strongly agree that they had discussed with their family member about MDRTB and 56 (9.3%) of them were disagree that they had talked with health professionals about the risk of MDRTB overall cues to action of TB patient in study area were 43.7% high exposed to MDRTB information.

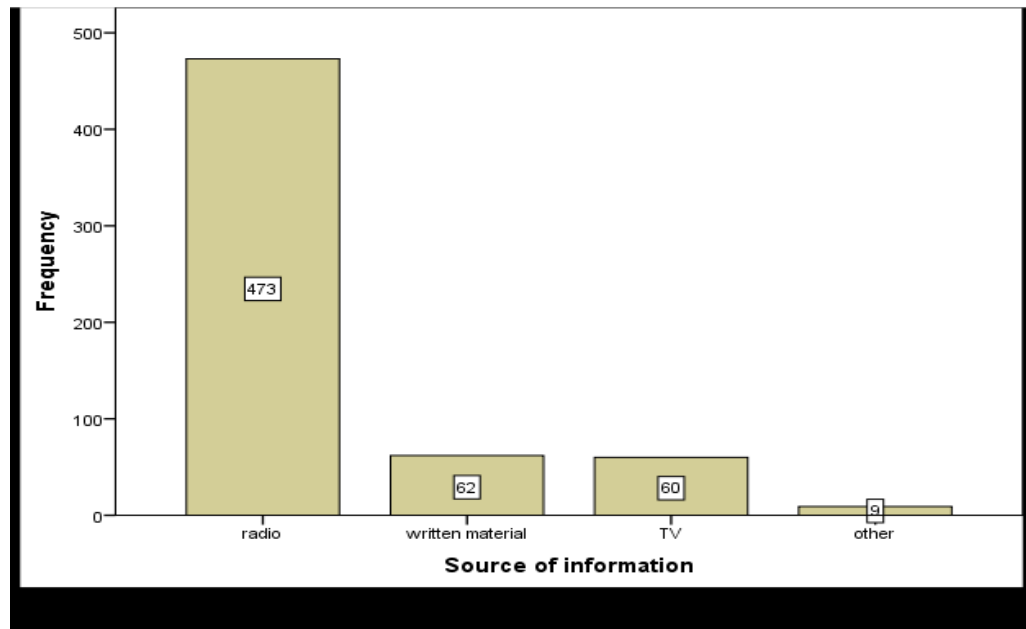


Figure 3: Source of information about MDRTB among TB patients.

5.3 Health related factor of TB patients

From 604 TB respondents visit health institution all of them visit health facility daily 604(100%) and the health professional educate them on the disease condition, All of them

were counseled on the first visit and also the health professional provide privacy for all patient while attending health center, Most of them were wait at the health center less than 2 hours on each visit before served.

5.4 knowledge and attitude toward MDRTB among TB patients

Of the 604 respondents 317(52.5%) aware that MDR TB is hereditary 264(43.7%) mentioned that untreated TB cause MDRTB. About 353 (58.4%) said that MDRTB can be transmitted sleeping in overcrowded houses with MDRTB patient. Two hundred fifty seven (42.5%) knew that MDRTB is a problem. While 322(53.3%)of the respondents aware cough or chest pain is the most common symptom of pulmonary MDRTB. 403(66.7%) of respondents mentioned that prevent MDRTB by taking TB treatment continuously for 6/9 month. Most of 571 (94.5%) participant illustrate that someone infected with MDRTB be cured. Only 28(4.6%) said that long stay on treatment of MDRTB do not harms health. Overall 38.6% of respondents had Good knowledge. All respondents were asked about their attitude toward MDRTB, in this study regarding attitude of TB patients 87 (14.45%) of TB patients should always seek medical attention when they are suspecting to have MDRTB, 187 (30.92%) get discriminated against in the community 167 (27.60%) of MDRTB treatment takes too long. overall favorable attitude of respondents was 220(36.4) and unfavorable attitude of respondents in the study area was among MDRTB three hundred eighty four (63.6%).

Table 0-2 knowledge and attitude toward MDRTB among TB patients.n=604

Variables	Frequency		Percentage	
	Correct	Incorrect		
1 .MDR TB is hereditary?	317(52.5%)	287(47.5%)		
2 .Un treated TB cause MDR?	264(43.7%)	340(56.3%)		
3. Not completing TB treatment cause a problem?	257(42.5%)	347(57.5%)		
4 .MDRTB can be transmitted sleeping in overcrowded houses with MDRTB patient ?	353(58.4%)	251(41.6)		
5 .Cough or chest pain is the most common	322(53.3%)	282(46.7%)		

symptom of pulmonary MDRTB?		
6 .Can we prevent MDRTB by taking TB treatment continuously for 6/9 month?	403(66.7%)	201(33.3%)
7 .Can someone infected with MDRTB be cured?	571(94.5%)	33(5.5%)
8 .one gets MDRTB contact TB patient material?	284(47%)	320(53%)
9 .MDRTB is a disease of long duration?	348(57.6%)	256(42.4%)
10 .Long treatment of MDRTB harms health?	28(4.6%)	576(95.4%)
11 . MDRTB drug available for treatment at health center?	584(96.7%)	20(3.3%)
12.Good knowledge	233(38.6)	
13.poor knowledge	371(61.4)	

Table 0-3 Frequency distribution of MDRTB Attitude of all TB patients 2021.n=604

ATTITUDE	strongly agree	Agree	neutral	Disagree	Strongly disagree
Variables	no.	no.	no.	no.	No
1. MDRTB is a serious disease	604	0	0	0	0
2. People should always seek medical attention when they are suspecting to have MDRTB	4	25	113	362	100
3. people with MDRTB get discriminated against in the	27	48	126	189	214

community

4. MDRTB is a disease of those with ill-gotten wealth	16	20	64	317	187
5. MDRTB treatment takes too long	0	1	86	326	191

5.5 Perceived susceptibility and perceived severity of TB patients about MDRTB

All respondents were asked about their perceived susceptibility toward MDRTB. In this study regarding perceived susceptibility of TB patient in study area three hundred forty nine (58%)of respondents had low perceived susceptibility of MDRTB and two hundred fifty five (42%) of respondents had high perceived susceptibility of MDRTB. All respondents were asked about their perceived severity toward MDRTB, in this study regarding perceived severity of respondents 593(98.2%) of respondents strongly agree that there is no cure to MDRTB and 133(22%) of them were disagree that some with MDRTB will eventually die from the disease and 174 (28.8%) strongly agree that if I get MDRTB my life will be destroyed overall (57%) high perceived severity to MDRTB.

Table 0-4 perceived susceptibility and perceived severity of TB patients about MDRTB.n=604

Variables	strongly agree	Agree	Neutral	disagree	strongly disagree
Perceived susceptibility	no.	no.	no.	no.	no.
1. If I am TB positive I will probably develop MDRTB	602	0	0	0	2
2. I am not afraid of getting MDRTB	137	88	125	142	112

3. I will be exposed to MDRTB some times during my life but will not get sick	153	80	84	133	154
4. If I get MDRTB, I will not get proper treatment in my country	149	80	83	125	167
5. I live in an environment where i can be exposed to the MDRTB infection	186	59	78	125	156
6. I am more likely to be at risk for MDRTB than others	190	44	62	133	175
7. I have a high chance of getting MDRTB	199	54	58	128	165
Perceived severity					
1. There is no cure to MDRTB	593	1	1	0	9
2. If I sick in MDRTB and had some inconvenience in my daily life	152	108	88	164	292
3. someone with MDRTB will eventually die from the disease	130	90	117	133	134
4. I often suffered very much when i will sick with MDRTB	141	86	98	118	161
5. If I get MDRTB my life will be destroyed	174	70	52	131	77

Measuring knowledge, attitude, perceived susceptibility, perceived severity toward MDRTB

As presented below, the mean knowledge of MDRTB had (7.09) the highest mean followed by perceived severity (3.45) and perceived susceptibility (3.23), the lowest mean belongs to attitude (2.6) of MDRTB.

Table 0-5 Measuring knowledge, attitude, perceived susceptibility, perceived severity toward MDRTB

Variables	Valid	missing	mean	Standard deviation	minimum	Maximum
Knowledge	604	0	7.09	1.22	4	11
Attitude	604	0	2.6	.40	1.80	4.20
Perceived severity	604	0	3.45	.97	1.25	5
Perceived susceptibility	604	0	3.23	1.19	1.57	5

5.6 Factors associated with MDRTB among all TB patients

In Binary logistic regression analysis MDRTB knowledge was a significantly associated with age, sex, education, occupation and residence of respondents. In multivariate analysis the finding of this study reveal that the level of education of respondent's about MDRTB was positively associated with knowledge where those who were secondary level education and above had (AOR=6.5,95%CI= (3.8,10.9) times higher than the odds of TB patients who did not attend any level of education or illiterates.

The findings of this study show that there was a significant relationship between education of respondents and attitude of MDRTB. There was a significant relationship between sex of respondents and perceived severity of MDRTB. Result also revealed that there was a significant relationship between sex of respondents and the perceived severity of MDRT where those who were male had MDRTB (AOR=6.230, 95%CI = (4.17, 9.3)

compared to female. The result also revealed that there was a significant relationship between age status of respondents and the perceived susceptibility of MDRTB where those who were age “between” 18-35 had (AOR=1.99), 95%CI = (1.07, 3.72) compared to above 36years. Also the study revealed that there was a significant relationship between sex of respondents and the perceived susceptibility of MDRTB where those who were male had (AOR= 5.69),95%CI=(2.93,11.05)compared to female respondents.

Table 0-6 Factor associated with MDRTB among all TB patients.n=604

1. Knowledge						
Variab les	Category	good Knowled ge	Poor Knowledge	COR95% CI	AOD95%CI	P.V
Age	18-35	124(50.8)	120(49.2)	2.3(1.7,3.3)	1.07(.69,1.6)	.77
	>36	109(30)	251(70)	1		
Sex	Male	181(58)	131(42)	6.4(4.3,9.2)	4.1(2.7,6.2)	< 0.001
	Female	52(18)	240(82)	1		
Educati on	Did not attend for ed	202(83)	40(17)	1	1	
	Primary	102(64)	57(36)	2.8(1.7,4.5)	2.4(1.4,3.8)	< 0.001
	Secondary	67(33)	136(67)	10(6.5,1.6)	6.5(3.8,10.9)	< 0.001
Residen ce	Urban	55(31)	124(69)	.65(.43,.89)	.77(.50,1.2)	.264
	Rural	178(42)	247(58)	1		
Occup ation	Self-employ	335(63)	194(37)	1.8(.33,.87)	1.12(.63,2)	.70
	Unemployed	36(48)	39(52)	1		
2. Attitude						
		favorabl e Attitude	unFavorab le attitude			
AGE	18-35	113(46)	131(54)	2.04(1.45,2.9)	1(.67,1.45)	.98
	>36	107(30)	253(70)	1	1	

SEX	Male	143(46)	169(54)	2.36(1.68,3.3)	1.3(.94,2.02)	.103
	Female	77(26)	215(74)	1	1	
Educational	Did not att	200(83)	42(17)	1	1	
	Primary	104(65)	55(35)	2.5(1.6,4.04)	2.4(1.5,3.8)	< 0.001
	Secondary and above	80(39)	123(61)	7.3(4.7,11)	6.4(3.9,10.6)	< 0.001

Severity

		high percieve severity	Lowpercieve severity			
Age	18-35	164(67)	80(33)	5.64(3.95,8.04)	4.11(2.72,6.1)	< 0.001
	>36	96(27)	264(73)	1	1	
Sex	Male	200(64)	112(36)	6.86(4.75,9.90)	6.23(4.17,9.3)	< 0.001
	Female	60(21)	232(79)	1	1	
Residence	Urban	61(34)	118(66)	.59(.408,.84)	.59(.37,.93)	.021*
	Rural	199(47)	226(53)	1	1	
Occupation	Selfemployed	201(38)	328(62)	.17(.093,.29)	.31(.16,.59)	< 0.001
	Unempl	59(77)	16(23)	1	1	

Susceptibility

		high perc susceptible	low perc Susceptibility			
Age	18-35	165(68)	79(32)	6.26(4.37,8.97)	1.99(1.07,3.72)	.03*
	>36	90(25)	270(75)	1	1	
Sex	Male	200(64)	112(36)	6.91(4.78,9.9)	5.69(2.93,11.05)	<0.001
	Female	60(21)	232(79)	1	1	
Residence	Urban	58(32)	121(68)	.56(.39,.80)	.45(.22,.93)	.03*
	Rural	197(46)	228(54)	1	1	
Occupation	Selfempl	58(77)	17(23)	5.75(3.25,10.2)	.55(.21,1.47)	.23
	un empl	197(37)	332(63)	1	1	

CHAPTER. six Discussion

Multi-Drug Resistance Tuberculosis (MDR) is becoming a major challenge globally but serious in developing countries like Ethiopia. Despite the high efficacy of Tuberculosis,

mortality and risk to become resistant to the drugs are emerging due to lack of adequate knowledge, attitude and perception among MDR-TB (8). If the above targets are to be met, community members must possess appropriate knowledge, attitude and perception with regard to the causes of MDR-TB, its sign and symptoms, transmission, prevention and treatment modes and methods so that they can take appropriate actions to control and prevent the spread of this disease.

The study was reveal that the magnitude of good knowledge, favorable attitude, high perceived severity and high perceived susceptibility were 38 %, 36%, 57% 42,% respectively .In this study the channel of information they receive MDRTB information were found to be television 60(9.9%), radio 473 (78.3%),which is similar with the findings of the study conducted in South Africa which states that the main source of information about Drug Resistant TB information were radio and television among the majority of research respondents(15).This implies that many African country including Ethiopia and South Africa with low socioeconomic status and majority of them are rural and agricultural employed and simple, easy to use and get access to those channel like radio increasing access to mass media can play a key role in controlling MDRTB transmission.

In this study the overall knowledge of the respondents were 38.6% of respondents had good knowledge about MDRTB. This was inconsistent with Study conducted in Addis Ababa, Nigeria, and Lesotho, In which 55%, 18.4%, 59% of respondents had good knowledge about MDRTB respectively. This inconsistency of findings implies that different in literacy status of study area and Addis Ababa. This finding studied reveals that 40.1% of respondents were not attending formal education (illiterate) in the study area. But Addis Ababa is the capital city of the country and literacy status could be higher than this study area (18)(12).

The study conducted in Lesotho, the overall knowledge of MDR TB in the general population of Lesotho was 59.9 %, and this is higher compared to the current study (18).

In this study all respondents were asked about their attitude toward MDRTB, accordingly majority, which mean, 63.6% of the respondents had unfavorable attitude toward MDRTB.

This study also found out that only 36.4% of the respondents had favorable attitude toward MDRTB. This finding is similar with the study done South Africa(15).

In this study the result shows that high perceive severity of MDRTB toward respondents 344(57%), also similar with the study conducted in south Africa found that despite the high perceived severity among respondents about Drug Resistant TB and the lethal nature of the Drug Resistant TB if left unattended(15).This implies that the high perceived severity respondents shows had concept about MDRTB.

The finding of this study revealed that the sex of the respondents is associated with having knowledge about MDRTB. Male participants were about (4) times more likely to have good knowledge than female participants. The finding is similar with study done at Addis Abeba(12). The possible explanation could be due to male participants had more opportunity for education than female that lead them to have more information.

The finding of this study revealed that the educational level of the respondents is associated with MD-RTB knowledge. Participants with secondary and above education level were (6) times more likely to have good knowledge of MDR-TB than those with no formal education. This finding is in line with the study conducted in Addis Ababa(12) and (22). The possible explanation might, people with secondary and above education may have a better ability to understand health information which attributed to their knowledge about MDR-TB.

In this study, participants found in the age interval 18-35 were (4) times more likely to have high perceived severity of MDR-TB compared to participants above 35 age group.This implies that, participants within the age group of 18-35 were most probably more likely to have access to health related information .There is no relevant literature regarding this. When compared to female, male participants were (6) times more likely

to have high perceived severity. This could be due to male were given more educational opportunity than female, that attributed their awareness on health information that lead them to have high perceived severity . There is no relevant literature regarding this.

In this study, participants found in the age interval 18-35 were (1.99) times more likely to have high perceived susceptibility of MDR-TB compared to participants above 35 age group. This implies that, participants within the age group of 18-35 were most probably more likely to have access to health related information. There is no relevant literature regarding this.

6.1 Limitation and strength

The limitation of this study; This study was not supported by qualitative study, which could provide additional information to explore more about perception toward MDRTB.

The strength of the study; The research was focused on different woredas and health centers trying to address patients related factor influencing MDRTB prevention and control strategy. The response rate of participants both (male and female) was 99.5%.

CHAPTER seven. Conclusion and Recommendation

7.1. Conclusion

This study found more than one-third of the participants had good knowledge, favorable attitude and high perceived susceptibility, whereas more than half of them had high perceived severity toward MDRTB respectively. Participants' education level, sex, were factors associated knowledge, While age, sex and occupation were factors significantly associated with perceived severity and perceived susceptibility toward MDR-TB.

7.2. Recommendation

To Ilubabor zone Health Department

- Regular health information and counseling on the disease and treatment should be provided to female TB patients on tuberculosis disease and treatment while on TB

treatment and initiation to bring considerable change in knowledge about MDRTB TB.

- More emphases should be given on teaching patients about transmission and severity of tuberculosis disease and it would be better to establish proper information, education and communication with patients that who resides in rural area concerning their knowledge and perceived severity of MDR-TB.
- Specific attention should be given for TB patients who has no formal education regarding knowledge, attitude and perception toward MDR-TB.

To Policy maker

- To evaluate MDRTB control program and plan public health measure to increase MDRTB knowledge, attitude and perception and further enhance the MDRTB control. Public health measure focus on enhancing the health information to increase MDRTB knowledge, attitude and perception among TB patient and general population.

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Questioneries

Annex I: English Version Questionnaire

Jimma University

Institute of Health, Faculty of Public Health

Department of Health, Behavior and Society

Informed consent

Instructions;-This questionnaire is designed for a master's thesis focus on the assessment of knowledge and factor associated with MDRTB patients among TB patients. You have no right to make a leading question to interview but you should explain every question clearly and completely. Your interviewees' answers and records will be confidential and anonymous. Please follow the instruction on each part of the questionnaire. Your best effort is highly appreciated and will have a good impact on questionnaire validity and reliability. If the client's informed consent is not reached, they will not participate in the study.

For further information you can call on 0911055073

Signature of the participants _____

Signature of the data collectors _____

Study area: Iluababor zone

Name of Kebele _____

Annexes

English Questioner

PART 1=Socio-Demographic Data

Serial number	Questions	Category	Remark
1.1	Age in years _____		
1.2	Sex	1. male 2. Female	
1.3	Educational level	1. Not educated/Illiterate 2. primary 3. .secondery and above	
1.4	Marital status	1. Single 2. Married 3. Divorced 4. Widow/widower 5. Cohabiting	
1.5	Religion	1. Orthodox 2. Muslim 3. Protestant 4 other	
1.6	Ethnicity	1. Oromo	

		2. Amhara 3. Gurage 4. Tigre 5. Others specify
1.7	Residence	1. Urban 2. Rural
1.8	Monthly income	1. < 500 2. 500 – 1000 3. >1000
1.9	Occupation	1. Self employee 2. unemployed

Source of information about MDRTB

01	Have you ever heard about MDR TB?	1.Yes 2.No
02	From whom have you heard about MDRTB? (Please choose more than one if had from any one)	1 Health care worker 2. friends 3. Neighbors/relatives
03	From where have you received information?(Please choose more than one if had from any)	1. TV 2. Written material 3. radio 4. other

PART 2=Knowledge question toward MDR TB among all TB patient

	Question	Response	Remark
2.1	MDR TB is hereditary ?	1.Yes 2.No	
2.2	Untreated TB causes MDR?	1.Yes 2.No	
2.3	Not completing TB treatment cause a problem?	1.Yes 2.No	
2.4	cough or chest pain is the most common symptom of pulmonary MDRTB?	1.yes 2.No	
2.5	Can MDR TB is prevented by Covering mouth and nose when coughing and sneezing	1.yes 2.No	
2.6	Can MDR TB be transmitted in overcrowded houses?	1.yes 2.No	
2.7	Can someone infected with MDR TB be cured?	1.yes 2.No	
2.8	One gets MDR contacting TB patient material?	1.yes 2.No	
2.9	MDR TB is a disease of long	1.yes	

duration?	2. No
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Remark

2.10 Long treatment of MDRTB harms health?	1.yes 2.no
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2.11 MDRTB drug available for treatment at health center?	1.yes 2.no
--	---------------

2.12 Cause of MDRTB	1 Bacteria 2 virus 3 witchcraft 4 do not know 5 others
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2.13 In your opinion who is infected with MDR TB?	1.Any body 2.Only poor people 3.only homeless people 4.only people with HIV 5.only people who have been in prison 6. others
--	--

PART 3 .SERVICE AND PROVIDER INFORMATION

	RESPONSE	Remark
3.1 How frequent you visited this facility	1.Daily 2.Weekly dose 3.monthly dose	

		4.Other specified	
3.2	Did the health professionals educate you on the disease condition?	1.Yes 2.No	
3.3	How often were you counseled on the condition by the care providers?	1.On the first visit 2.On each visit 3.Once a while 4.Never counseled	
3.4	Did the care providers provide privacy while attending to you at the health center?	1.yes 2.No	
3.5	How long did you have to wait at the health center on each visit before you are served ?	1.<2hours 2.3hour 3.4hour 4.>4	
3.6	How far was your home to the health institution in kilometers (Km)?	1.1/2km 2.1km 3.2km 4.>3km	
3.7	How did you get to the this health facility?	1.walked 2.Took a car 3.Other specified	
3.8	If you boarded a car, how much did you spend on transportation to the the health facility and back home? -----		88

1 . Attitude towards MDRTB from strongly disagree to strongly agree.

Statement	SCALE
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	1	2	3	4	5
1.MDRTB is a serious disease					
2.People should always seek medical attention when they are suspecting to have MDR TB					
3.People with MDR TB get discriminated against in the Community					
4.MDRTB is a disease of those with ill-gotten wealth					
5.MDRTB treatment takes too long					

2.Perceived susceptibility towards MDRTB from strongly disagree to strongly agree.

Statement	SCALE				
	1	2	3	4	5
1.If I am TB positive I will probability to develop MDR-TB					
2.I am not afraid of getting MDR TB					
3.I will be exposed to MDRTB sometime during my life but will not get Sick					
4.If I get MDR TB, I will not get proper treatment in my country					

5.I live in an environment where I can be exposed to the MDRTB infection.

6.I am more likely to be at risk for MDRTB than others

7.I have a high chance of getting MDR TB

3. perceived severity towards MDRTB from strongly disagree to strongly agree

STATEMENT	SCALE				
	1	2	3	4	5
1 There is no cure to MDRTB					
2 If I sick in MDRTB and had some Inconvenience in my daily life.					
3 someone with MDRTB will eventually die from the disease,					
4 I often suffered very much when I was Sick with MDR					
5 If I get MDRTB, my life will be destroyed					

4. cues to action towards MDRTB from strongly disagree to strongly agree

STATEMENT	1	2	3	4	5
1 I have looked for information about MDR TB in general					
2 When I encounter information about MDRTB, I am likely to stop and think about It I have discussed with family member					
3 about MDRTB					
4 I have talked with health professional about the risks of MDR TB.					

Annex II: Afan Oromo Version Questionnaire

Yuunivarsiitii Jimmaatti

Inistiutyii Fayyaa Faakaalitii Fayyaa Hawaasaa Saayinsii

Muummee Baruumsa dagaagina amalaafi Fayyaa hawasaa (Health, Behavior and Society)

Qajeelfama Waliigalaa:- Bargaaffiin kun Waraqaa Qo`rannoo Digrii Lamataaf (Mastersiif) Beekmsaa dhukkuba daranyoo sombaa qorichaan wal bare dhukkubsataa Daranyoo Sombaa irraati geggeffamu. Bargaaffichi Kutaa saditi 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 qajeelfama 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.

Odeeffanno dabalata argachuuf yoo barbaaddan lakka bilbila 0911055073 irratti bilbilaa

Bakka Qorannoon itti gaggeeffamu

1, Magaalaa-----

2, Baadiyyaa -----

Ganda_____ Garee_____ Lakk.Manaa_____ Mallto_____

KUTAA 1 Odeefanno waliigala hawasaa

TL		Yaada
1.1	Umurii	
1.2	Saala	1. dhiira 2. dhalaa
1.3	Sadarkaa barnoota	1. kan hin baranee 2. dubbisuuf barreesuu 3. kutaa 1-6 4. kutaa 7-12 5. 11-12 (qoopa`ina) 6. kolleejii /univarsiitii
1.4	Haala fudhaa fi heeruma	1. kan hin fudhin 2. kan heerumte ykn kan fudhee 3. kan adaan bahan 4. osoo wal hin fudhiin kan waliin jiraatan
1.5	Amantaa	1. ortodoksii 2. musliima 3. protestantii

		4.kan bira
1.6	Qomoo	1. oromoo 2.amaaraa 3.guuraagee 4.tigree 5.kan bira
1.7	Bakka jireenyaa	1. magaala 2.baadiyaa
1.8	Galii	1. <500 2. 500-1000 3 .>1000
1.9	Hojii	1. kan ofiin of bulchu 2. hojjataa mootuma 3 .kan hojii hin qabine

Odeefanno dhibee TB argachuun walqabatee

	Gaafii	Koodii Deebii	koodii deebii Yaada galchi
01	Waa'ee dhibee TBqorichan wal bare dhagesee?	1.Eyye 2.Lakki	
02	Waa'e dhibee TB qorichaan wal bare eenyuu irra dhagesee?	1.hojattuu fayyaa irra 2.wahila irra	exteenshinii

	Deebii tokko oli debisuu ni dandeesu.	3.Ollaa irraa 4.Dhukkubsataa TB irra 5.Hojataa fayyaa broo irra 6. Kanbroo
03	Odeefanno waa'ee qorichan wal bare eessa argattuu?debii tokko ol debisuu ni dandessu.	1.TV 2.Raadio 3. barreefama adda addarraa 4 kanbiraa yoo jiraate_____

KUTAA 2 Gaafii Beekumsaa dhukkuba daranyoo sombaa qorichaan wal bare shaakama dhukkuba daranyoo sombaatiif

TL	Gaafii	Deebii	Koodii
2.1	dhukkuba daranyoo sombaa qorichaan wal bare sanyiidhaan daddarbaa?	1. eeyyen 2 .lakki	
2.2	Dhukkuba daranyoo sombaa kan hin yaalamiin dhukkuba daranyoo sombaa qorichaan wal bare fidu danda,a?	1.eeyyen 2.lakki	
2.3	Qorichaa TB fudhachuu dhiisuun	1.eeyyen	

	rakkoodha jettani yaadu?	2. miti
2.4	dhukkubii lapee ykn . qufaan mallatto dhukkuba daranyoo sombaa qorichaan wal bareti?	1.eeyyen 2. miti
2.5	Afaaniif funyaan keenyaa haguggun dhukkuba daranyoo sombaa qorichaan wal bare ittisu dandeenyaa?	1 eeyyeen 2.miti
2.6	1. Mana tokko keessaa baayaatani jiraachun dhukkuba daranyoo sombaa qorichaan wal bare namati fida?	1.eeyyen 2. miti
2.7	Namni dhukkuba daranyoo sombaa qorichaan wal baren qabamee fayyu hin danda,a?	1.eeyyen 2. lakki
2.8	dhukkuba daranyoo sombaa qorichaan wal bare kan nuti darbu yoo meeshaa dhukkubsataa TB ti tuuqinedha	1.eeyyen 2. lakki
2.9	dhukkuba daranyoo sombaa qorichaan wal bare dhukkuba yeroo dheerati	1.eeyyen 2. lakki
2.10	Yeroo dheerafi qooricha dhukkuba daranyoo sombaa qorichaan wal bare fudhaachuun fayya keenyaa iraati rakko /midhaa qaba	1.eeyyen 2. lakki

2.11 Yaaliin dhukkuba daranyoo sombaa qorichaan wal bare bufataa fayyaa kana jira jettani yaadu?

- 1.Eeyyen
- 2.Miti

2.12 dhukkuba daranyoo sombaa qorichaan wal bare ka,umsii isa maloodha jetani yaadu?

1. vaayirasii
- 2 .Baakteeriyaa
- 3.xonqoolaa
4. hin beeku
- 5 .kan bira

2.13 Akka ilaalcha keetiit eenyutu dhukkuba daranyoo sombaa qorichaan wal bare qabamaa jatee yaada?

1. namni hundumtu
2. rakkataa qofa
3. namoota mana hin qabine
4. namoota vaayirasii HIV/AIDS waliin jiratan qofa
- 5.namoota mana hidha jiran qofa
6. kan bira

KUTAA 3

	Tajajilaafi raga tajajila keennaa	Deebii	Yaada
3.1	Yeroo meqaa meqaan tajajiilaf dhufitu dhaabata fayya kana	<ol style="list-style-type: none"> 1.guyya guyyan 2. torbee torbeedhaan 3. ji`an 4. kan bira 	
3.2	Oggeessi fayyaa waa,ee dhukkubaa	1. eeyyen	

	iraati barnoota isiini keennee beeka	2. lakki
3.3	Hammam hamamiin waa,ee dhukkuba keessani irraati ogeessaa wajjin marii geggeesitu	1. guyyaa jalqaba 2. yeroo hundaa 3. yeroo tokkiti 4. guyya tokkolee
3.4	Ogeessi fayyaa yeroo isiin yaaluu koopaatii isiin ilala	1. eeyyen 2. lakkii
3.5	Osoo tajajiila hin argatiin sa,a meeqa teesuu bufata fayyaa ykn hospital kana	1. <2hours 2. 3hours 3. 4hours 4. >4hours
3.6	Mana yaalaa irra bakki jireenyaa keessaan hamam fagaata?	1 .1/2km 2 .1km 3 .2km 4 >3km
3.7	Maliin dhuftu mana yaalaa kana?	1. miilan 2. konkkolataa 3. kan bira ibsa
3.8	Yoo konkkolataa yaabatan waluma gala meeqa kafaltu deebii keessaani waajjiin	

1.ILALCHAA WAA`EE DHKKUBAA TB QORICHAAN WAL BARE SAFARTUUBAAYEE WAALII HIN GALUU IRRRA HANGAA BAAYEE WALIIGALAA

TL Jecha

Safartuu

	1	2	3	4	5
1	Dhukkuba TB qorichaan wal bare dhukkuba baayee cimaadhaa				
2	namootni yeroo hundaa yaalii xiyyeeffannoo kan barbaadan yeroo dhukkuba daranyoo sombaa qorichaan wal bareen qaba jedhan of shaakaanu dha				
3	namootni dhukkuba daranyoo sombaa qorichaan wal bareen qabame hawwasa irra adda ba,u				
4	dhukkuba daranyoo sombaa qorichaan wal bareen dhukkubaa namoota rakkina keessaa jiraanuti				
5	dhukkuba daranyoo sombaa qorichaan wal baree yaaliin isaa yeroo dheera fudhataa				

2.SAAXILAMUU YAADU WAA`EE DHKKUBAA TB QORICHAAN WAL BARE SAFARTUUBAAYEE WAALII HIN GALUU IRRA HANGAA BAAYEE WALIIGALA

Jecha	Safartuu				
T	1	2	3	4	5
L					
1	Yoon dhukkubaa TB qabaadhee TBn qorichaan wal bareen na qabu danda`a				
2	dhukkubaa TB qorichaan wal bareen hin sodadhu				
3	Yoon dhukkubaa TB qorichaan wal bareen yoon saaxilamee jireenyaa koo keessati garu hin dhukkubsadhu				

4 Yoon dhukkubaa TB qorichaan wal bareen qabamee yaalii gaha ta'ee biyyaa keessati hin argadhu

5 Nannoo ani jiraadhu dhukkubaa TB qorichaan wal bareen fi saaxiilama kan na godhudha

6 Eenyuun caala dhukkubaa TB qorichaan wal bareen fi balaa keessaan jira

7 dhukkubaa TB qorichaan wal bareen qabamuuf caraa gudaan qaba

3.CIMINAA WAA`EE DHKKUBAA TB QORICHAAN WAL BARE SAFARTUUBAAYEE WAALII HIN GALUU IRRA HANGAA BAAYEE WALIIGALA

T Jecha

L

Safartuu

1 2 3 4 5

1 dhukkubaa TB qorichaan wal baree hin fayyamu

2 dhukkubaa TB qorichaan wal baree dhukkubsadheen ture jireenyaa koo guyya guyyaa rakkoo qaqqabsiisa

3 Namni dhukkubaa TB qorichaan wal bareen qabamee dhuma irrati hin du,a

4 Yeroo baayee gidiraa guda na irra ga,a dhukkubaa TB qorichaan wal bare

5 dhukkubaa TB qorichaan wal bareen yoon qabamee jireenyii koo hin bada

4.CUES TO ACTION WAA`EE DHKKUBAA TB QORICHAAN WAL BARE

SAFARTUUBAAYEE WAALII HIN GALUU IRRA HANGAA BAAYEE WALIIGALA

T Jecha

L

1 2 3 4 5

1 Waluma galati dhukkubaa TB qorichaan wal baree raga nan barbaada

2 Waa`ee dhukkubaa TB qorichaan wal baree ragaa yoon argadhee waan hundaa dhabeen waa`ee isaa yaada

3 dhukkubaa TB qorichaan wal baree maatii koo waliin mari`adheera

4 Oggeessaa fayyaa waliin hasa`eera waa`ee dhukkubaa TB qorichaan wal baree