PATIENTS' SATISFACTION WITH TUBERCLOSIS CARE AND ASSOCIATED FACTORS AMONG PATIENTS ON ANTI-TUBERCLOSIS TREATMENT IN PASTORALIST COMMUNITIES, LAGA HIDA WOREDA, BALE ZONE, SOUTHEAST ETHIOPIA

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PATIENTS' SATISFACTION WITH TUBERCLOSIS CARE AND ASSOCIATED FACTORS AMONG PATIENTS ON ANTI-TUBERCLOSIS TREATMENT IN PASTORALIST COMMUNITIES, LAGA HIDA WOREDA, BALE ZONE, SOUTHEAST ETHIOPIA, 2016

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ABSTRACT

Background: Satisfied client is more likely to comply with prescribed medical treatment and completion of treatment. This is crucial for Tuberculosis prevention control programs especially in high burden countries like Ethiopia. In pastoralist settings of Ethiopia, tuberculosis treatment is exclusively given by public health facilities using directly observed treatment approach but little is known about patients' satisfaction about the service. Therefore, this study was aimed to determine patients' satisfaction with TB care and its determinants at Laga Hida Woreda of Bale zone, Oromia region.

Methods:- Facility based cross sectional study was undertaken May 25 to June 25, 2016. Structured questionnaire was used to conduct exit interview to all TB patients who were on treatment for at least one week during study period. Data was entered Epi data version 3.1 and exported to SPSS version 20 for analysis. Descriptive data was presented using text, tables and graphs. Logistic regression was used to determine association between the dependent and independent variables. A P-value at 95% CI was declared statistically significant.

Result: Two hundred five (93%) of TB patients were participated in the study. The finding revealed that 70.2% of TB patients satisfied towards the overall TB care while, higher study participants, 184(89.7%) and 189(92%) were satisfied with the cleanliness of instruments used by the provider and completeness of information given to them respectively. Meanwhile, quite low patients, 103(50.2%) and 113(55%) were satisfied with physical accessibility to DOTS facility/the health center/ and with overall comfort of the waiting area. Being informed about side effects of the drug [AOR=0.22, 95% CI: 0.09, 0.55**]** and length of waiting time [AOR=0.11, 95% CI: 0.046, 0.26**]** were found to be significantly associated with the overall satisfaction.

Conclusion: Majority of the study participants were satisfied toward the general TB care services received. Information provision on possible side effects and length of time spent at waiting area were found to be significantly associated with overall satisfaction and, hence, giving great emphasis for information on the possible side effects of regimen and making efforts to reduce waiting times (to 30 min at most) are forwarded consideration.

Kew words: Laga Hida Woreda, pastoral woreda, Satisfaction with sub-dimensions of TB care.

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List of Abbreviations

Dx:	Diagnosis
DOTs:	Directly Observed Treatment Short-Course
DRS:	Drug Resistance Surveillance
FMOH:	Federal Ministry of Health
HBC:	High TB Burden Countries
HC:	Health Center
HEW:	Health Extension Workers
HW:	Health Worker
PHCU:	Primary Health Care Unit
Rx:	Treatment
SPSS:	Statistical Package for Social Science
TB:	Tuberculosis
TLCP:	Tuberculosis and Leprosy Control Program
WHO:	World Health Organization

1. Introduction

1.1 Background

Tuberculosis (TB) remains a significant public health problem with considerable disease burden and mortality. TB mortality is unacceptably high given that most deaths are preventable if people can access quality health care for a diagnosis and treatment is provided (1).

It was 15 years ago that, Global efforts were strengthened to control TB and subsequently, in 1994 DOTS has been launched by WHO. However, later on Tuberculosis drug resistance and HIV co-infection have added serious threat to TB control activities and called for a revision of DOTs and in 2006 the Stop strategy was introduced by WHO. Ethiopia was also implementing the strategy, adopted the global targets for TB control with the main objectives of interrupting transmission of the TB infection, reducing mortality, morbidity, preventing spread of drug resistance & others (2; 3; 4).

Pursuing accessible high quality DOTS was the most important among the six components of national TB program strategies where patient views and judgments on the services received are vital parts of quality assurance in TB care. This is the best way to empower tuberculosis patients and their communities' and contribute to achieving the putted targets. On the other hand this is in lined with the other component of the strategy which is empowering people with TB in the promotive and preventive activities for TB (2; 3).

Patient satisfaction is used as a subjective perception that may be considered a reflection of reality (5). It has emerged as an increasingly important health outcome and is currently used to evaluate the quality of care & to identify which aspects of a service need to be changed to improve patient satisfaction(6). In general, patient's perspective on quality of care is important to have a better understanding of their gap and meet their needs, addressing barriers to services and for assuring successful treatment and cure.

However, with regard to tuberculosis (TB) program evaluations, most researchers focused on treatment outcome using sputum acid-fast bacilli (AFB) result and clinical assessment and did not take into consideration patient's perception of the quality of service received, which may be

crucial in influencing clinical and treatment outcomes(7). However, greater satisfaction with care received has been associated with superior compliance, improved attendance at return visits, better treatment success, and higher cure rates (8).

Generally, however, while patients' satisfaction is an integral service-quality component that should be assessed time to time and is of paramount importance for TB program, it has not been addressed well to date.

Additionally, evidence shows that client satisfaction varies by region and health facility. Study conducted in Addis Ababa found that private hospital patients were more satisfied than those at the public hospitals (9). Again as to study done in South Ethiopia, analysis of variables related to institutional aspects explained 30.4% of the variation in satisfaction among TB patients (10). However, those existing rare findings in Ethiopia are limited to urban or accessible area and largely not take into consideration facilities at hardship & remote area particularly pastoral districts.

1.2 Problem Statement

Despite of the encouraging results achieved by growing adherence to World Health Organization recommendation on the use of both Directly Observed Treatment Short-Course(DOTS) & Stop TB strategy, and other interventions in many countries, tuberculosis remains a major global health problem responsible for ill health among millions of people each year. TB ranks as the second leading cause of death from an infectious disease worldwide, after the human immunodeficiency virus (1).

Ethiopia has been met all of the three MDG targets for 50% reductions in incidence, prevalence &, mortality. However, Ethiopia is still among the top three in Africa and eighth among the 22 high TB burden countries worldwide and where TB is claiming the lives of thousands of Ethiopians every year (1, 11). Cognizant of the huge burden of TB in the country, the Government of Ethiopia has given due attention to the control of TB.

Moreover, emergence & growing up of drug-resistance tuberculosis was the most exciting problem that challenging TB control activities. Ethiopia is among the high MDR-TB burden countries (3). The estimated annual number of MDR-TB patients was 2,000 – 2,500 cases in 2013. The prevalence of MDR-TB is increasing at an alarming rate from a baseline rate of 1.6% among new cases in 2005 to current level of 2.3% in 2014 (12).

Drug-resistant TB is a man-made problem largely being the consequence of human error as a result of individual or combination of factors. Patient management & patient adherence are among the major contributing factors (13).

Poor adherence to treatments by patients arises from the interaction of multiple factors affecting the quality of TB care (14, 15, 16). Previous studies have identified several health service delivery factors that impact on adherence, including ineffective communication, incapable of dealing with minor illnesses, and reduced access to TB care units (15, 17, 18). Previous study done in India stated dissatisfaction with services provided was the predictors of default (19). This is consistent with the study done in South Africa, where higher patient satisfaction with the service at the hospital was significantly associated with higher levels of adherence (20).

Similarly, study done in south Ethiopia have identified that the overall patient satisfaction on TB treatment service has a positive effect on patient adherence to TB treatment (10).

Satisfied client is more likely to comply with prescribed medical treatment and completion of treatment, which is of utmost priority for TB control programs. Client satisfaction with the services and perceived quality tend to influence utilization of service as well as compliance with practitioner recommendation (21). In consistent to this, others studies have shown that, satisfied patients are more likely to utilize health services (14), comply with medical treatment and continue with the health care providers (15).

Thus, asking patients what they think about the care and treatment they have received is an important step towards improving the quality of care, and to ensuring that local health services are meeting patients' needs.

1.3 Significance of the study

It is obvious that, patient compliance is of a paramount importance in TB treatment success. However, poor adherence to treatments by patients arises from the interaction of multiple factors affecting the quality of TB care. Thus, determining patient views and judgments on TB care services are vital to understand the gaps in TB-care services delivery and to understand the specific needs of individual patients so that TB program managers or others concerned bodies able to institute strategies to meet the needs and expectations of patients.

Hence, this study made attempt to determine patients' satisfaction with TB care and associated factors in the study area and provided valuable diagnostic information relating to the TB care services that patients received. The study was also tried to determine influencing factors of patient satisfaction. Furthermore, it can contribute in the reduction of harms due to lack of patients involvement in TB care service provision.

Additionally the existing rare findings in Ethiopia are limited to urban or accessible area and largely not take into consideration facilities at hardship & remote area particularly pastoral districts. Therefore, this present study may address this gap and will be help those stakeholders to take timely measures and lessons for the improvement of TB program and it can also serve as base line information for other similar studies that may be conducted in the future.

2. Literature review

2.1 Tuberculosis Situation

Tuberculosis incidence and mortality has been declining in all World Health Organization (WHO) regions since 2001, and treatment success rates have been maintained at 85% or more since 2007. Overall, TB mortality has decreased by 4.5% since 1990 and the prevalence rate fell by 41% during the same period (1).

Yet, TB is still a significant public health problem with considerable disease burden and mortality, particularly major public health threat of many developing countries. In 2013, an estimated 9.0 million people developed TB and 1.5 million died from the disease, 360,000 of whom were HIV–positive. Africa has the highest cases and deaths of TB per capita and contributes significant population to the global Tb burden (1).

Ethiopia is among a very high TB burden country & categorized under the top ten countries globally & the top three in Africa, regarding estimated number of incidence cases (1). Despite of encouraging progress in TB control seen in the former decades the TB situation was further challenged by the association between TB and HIV, drug resistance etc. This called for a revision of DOTs and in 2006 the Stop strategy was introduced by WHO (2, 3, 4).

The emergence of MDR TB in many parts of the world, including Ethiopia, is posing serious threat to the control of TB (12). Overall, a systematic review of the literature conducted on MDR-TB in Ethiopia indicated that previous exposure to TB treatment was found to be the most significant risk factor reported in Ethiopia (21). Unsatisfactory patient or clinician compliance, lack of supervision of treatment and absence of infection control measures are among explanatory variables for high association of previous TB treatment to MDR-TB (21).

2.2 Satisfaction with Tuberculosis service care

Patient satisfaction is results of the process of patient care and of the timely availability of the necessary inputs and mostly used as relevant outcome to measure health care performances (22).

There are several literatures on patient satisfaction and includes factors thought to be related to patient satisfaction as patient attribute factors, perceptions concerning medical care as well as

organization & process of care. According to Donabedian (1992) clients satisfied when his/her needs are met adequately when seeking healthcare services and while client satisfaction has multiple dimensions, key ones include communication, client-provider interaction, provider characteristics/competency, health facility and physical environment(23; 24; 25).

Supporting this, the study revealed that service quality has an important impact on service satisfaction that has four quality dimensions that encompass relevant quality sub dimensions as patient provider interaction, communication and information, accessibility & availability of services, infrastructure/physical setting, and professional competence. Available numerous typologies of patient satisfaction assess a number of dimensions of care. The most frequently measured are interpersonal aspect, technical quality, accessibility & availability &/or continuity of care, and patient convenience and physical setting (23).

A systematic review showed that overall education or counseling interventions may increase successful treatment completion although the magnitude of benefit is likely to vary depending on the nature of the intervention and the setting [26]. The study conducted in Zambia, aiming to assess Provider's Adherence to TB Evidence-based Standards and Guidelines, more than 80 % of the TB patients reported that they were provided with information regarding the signs and symptoms of TB, and how it is spread. In the same study, only 64% of the TB patients reported having received information on possible side effects of treatment and how to manage these. (27).

Also, as to study conducted to assess quality of TB health services in Health Care Centers in Uganda, 52 (13.27%) of the patients were not informed that they would transmit TB to others, 94 (23.98%) were not informed how to stop spreading TB to others, 55 (31.98%) were not informed about the regimen/TB drugs (28).

Study on TB care quality conducted in Bahirdar show that, majority of respondents were satisfied in the effectiveness of the treatment provided and with the overall services they received while dissatisfied in cleanliness of waiting area, comfortableness of waiting area, waiting time, and adequacy of working hours(29).

The study done in Addis Ababa on quality of TB service showed that clients' degree of satisfaction was assessed using different questions .It was found out that 10.3%, 7.5%, and 6.8% of study participants were dissatisfied in the adequacy and appropriateness of working hours,

comfort of waiting area, and waiting time, respectively. Meanwhile, a higher proportion of study participants were satisfied with the measures taken to assure privacy (99.3%), respect offered by health provider (98.3%) and completeness of information given 98.3% (9).

Other facility based cross sectional study conducted in Sidama zone, South Ethiopia on patient satisfaction on tuberculosis treatment service and adherence to treatment in public health facilities revealed that almost 90% of the respondents were satisfied with TB treatment service. Waiting time in the waiting area was independent predictor of patient satisfaction (10). In similar study conducted in Afar shown that, 70% of TB attendance participated in the study were satisfied to the overall TB care services (30).

Each patient may have different characteristics, and patient's satisfaction is influenced by the characteristics of patients such as age, sex, education and social economic background and the quality of services provided (31, 32).

Studies conducted in Norway show that socio-demographic characteristics are associated with satisfaction (33). A Ugandan study reported that satisfaction was higher among clients with a primary or secondary education compared to those with none (4).

There have been several components of satisfaction being proposed at different times. However, in line with purpose of the interest combined &/or modified framework on patients' satisfaction with TB care used.

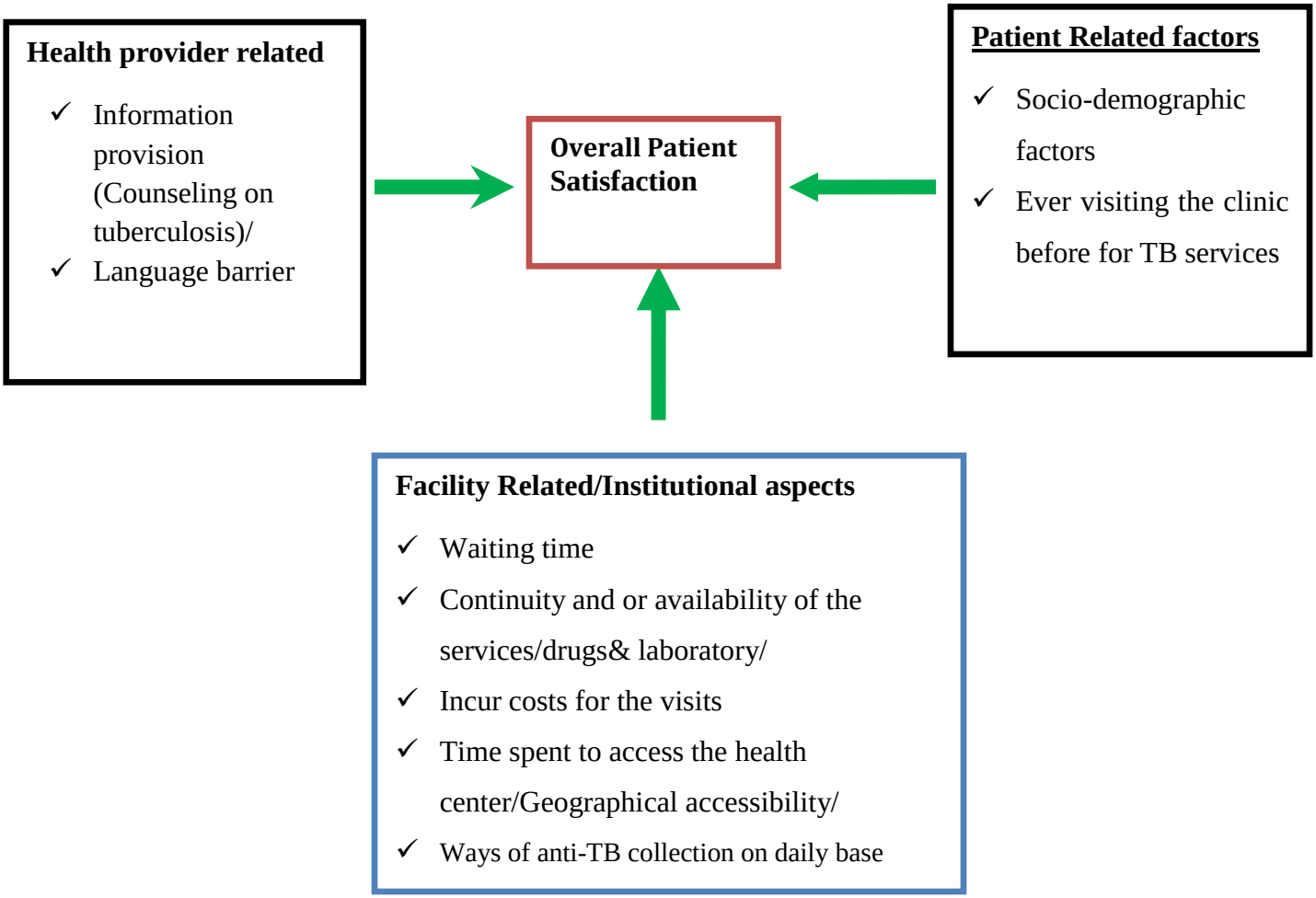

Figure 1 :-Conceptual framework developed to assess patient satisfaction with TB care at public health facilities of Laga Hida Woreda, 2016.

3. Objective

3.1 General Objective

To assess patients' satisfaction with tuberculosis care and identify associated factors in public health facilities of Laga Hida Woreda of Bale Zone, Oromia regional state, June 2016.

3.2 Specific Objectives

1. To assess TB patients' satisfaction toward TB care received at public health facilities of Laga Hida Woreda.

2. To identify factors associated with satisfaction with TB care at public health facilities of Laga Hida Woreda.

4. Methods and Materials

4.1 Study area and period

The study was conducted in Laga Hida Woreda which is one of the pastoral woreda in Bale zone and where most people of the district characterized by seasonal movement with their cattle in search of grass & water. Twenty-six rural villages & one woreda town named Beltu that serve as seat of the woreda administration. Beltu town situated 685km from Addis Ababa to southeast whereas 248km southwest of Robe town of Bale zone. The woreda has 89,653 total populations as per 2008 population estimation. Regarding health facilities there are five Primary Health Care Units(PHCU), twenty one functional & six un-functional health post and two lower private clinics , and also one each rural drug vender & drug store. The study period was from May 25 to June 25, 2016.

4.2 Study Design

A facility based cross-sectional study design was employed.

4.3 Source Population

All TB patients who were on anti-TB treatment during study period at health centers of Laga-Hida woreda were considered as source of the study population.

4.4 Study Population

All TB patients who were on anti-TB treatment during study period and were satisfied eligibility criteria were considered as study population

4.5 Sample size and sampling techniques

The sample size was calculated using single population proportion formula considering the following assumptions: P= 83.8% (as an estimate prevalence/proportion of TB treatment attendees satisfied with the TB care services they received in Hadiya zone public health facilities, Southern Ethiopia [17]. Significance level 5% ($\alpha = 0.05$), and $Z\ \alpha/2 = 1.96$, margin of error of 5% (d=0.05), based on these assumptions, the sample size was calculated as follows:

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

$$= \frac{(1.96)^2 \times 0.838 \times (1-0.838)}{(0.05)^2} = 208$$

Adding 10% (21 of TB patients) for possible no respondent, the total sample size was 229.

Since the number of TB patients on treatment at the time of data collection was nearly equal to the calculated sample size, all TB patients who were on anti-TB treatment at study period and those who satisfied eligibility criteria were included in the study.

4.6 Eligibility criteria

4.6.1 Inclusion criteria

All TB patients who were on anti-TB treatment for at least one week during study period were included.

4.6.2 Exclusion criteria

TB patients less than 15 years old that came alone/without parents/guardian/ during study period were excluded from the study.

4.7 Study variables

- **Dependent Variables**
  - TB Patients' satisfaction
- **Independent Variables**

  Socio-demographic factors

  Ever visiting the clinic before for TB services

  Waiting time

  Walking time to access the health center (geographical accessibility)

  Continuity and or availability of the services /drugs & laboratory/

  Incur costs for the visits

  Language barrier

  Being attended by same health provider

Information provision (on essential information of TB treatment and disease)

Counseling on HIV test

Ways of anti-TB collection on daily base

4.8 Data collection tools and procedures

After reviewing similar studies, others relevant published journal articles and TB guidelines (35, 36, 37), structured interview questionnaire was adapted to sought information on socio demographic characteristics, general about institutional aspect and patients' satisfaction status toward TB care services received. Also, items with yes/no response were designed & included in the questionnaire to assess the extent to which relevant information was given to patients in relation to their treatment and TB disease. The adapted questionnaire was contextualized to the local situation and to the research objectives. The questionnaire was prepared in English then translated in to Afan Oromo and back to English to check for its consistency. Respondents were asked to rate their satisfaction with various aspects of TB care services they received by using a 5-point Likert scale ranging from very dissatisfied (1 point) to very satisfied (5 point).

Five data collectors who speak local language were recruited and trained for one day on objective of the study and data collection tools to conducted exit interview with respondents. To avoid social desirability bias, both the data collectors and supervisors were recruited from woreda and other health facilities.

4.10 Data processing and analysis

Data were entered in to Epidata and exported to SPSS version 20 for analysis. The overall satisfaction scaling was done using all the fifteen items. For each respondent, total/summed/ score satisfactions were calculated by using each individual response to all of the fifteen satisfaction items. Then after, the total score satisfaction of each subject was averaged to create mean. So the mean calculated from the summed score satisfaction of each respondent was considered as a cut-off point and totaled/summed scores equal and above the mean were taken as an indicator of respondents' perceived satisfaction. The rating was determined using the count value within cases' in the transform menu of SPSS software. Those TB patients whose totaled/summed/ scores satisfaction equal and above the mean were taken as satisfied while those whose summed score satisfaction below the mean were taken as unsatisfied.

With regard to the rating of patients' satisfaction toward the specific aspects TB care was as follows: 1= very dissatisfied 2= dissatisfied 3= fairly satisfied 4= satisfied 5= very satisfied. In the analysis of patients' satisfaction, ratings of one and two were considered dissatisfied. Similarly, neutral responses were classified as dissatisfied considering that they may represent a fearful way of expressing dissatisfaction while ratings of four and five were considered satisfied. Thus, expression of satisfaction with services by the participants was either as dissatisfied or as satisfied.

Descriptive statistics were computed and presented by tables, graphs, and frequencies. Logistic regression model was used to compute Bivariate and Multivariate analyses for the assessment of the association between the dependent and independent variables. Those variables with P-value of less than or equal to 0.25 in bivariate analysis were selected to fit for multiple logistic regression model and declared significant at 95% CI

4.11 Data quality assurance

The quality of data was assured by using properly designed data collection instrument. Training was given for data collectors and supervisors on objective of the study and data collection tools. Proper categorization and coding of data were done. The supervisor and principal investigator checked the data on daily basis for their completeness, accuracy and clarity. Cronbach's alpha reliability coefficient was used to measure the reliability of the questionnaire. For the whole questionnaire or the full-scale alpha was 0.82 while, for the 3 items of overall patient satisfaction Cronbach's alpha was 0.87.

4.12 Operational definitions

Accessibility to health center (geographical accessibility): in this study accessibility was measured in terms of distance between place of residence and DOTS that was estimated based on TB patients' reports on their time spent accessing DOTS facility or the time taken to reach the DOTS facility (16).

Possible side effects/about treatment regimen/: conditions or anti-TB drugs that may happen to the TB patients on anti-TB treatment. Like Orange/red urine, anorexia, nausea, abdominal pain, joint pains, itching, skin reaction. So the patients were asked if relevant information about the side effects of the drugs were given to them. Their answer was checked whether they were told the possible side effects or if what they return back to discuss with care provider (3).

Totaled mean score- refers to the averaged satisfaction score of all items. It was calculated from the summation of each individual response to each satisfaction item. Each individual response to each satisfaction item was summed and its mean score taken as cut of points to be classified patients as satisfied and dissatisfied for the overall TB care.

Pastoralists: populations that live by a social and economic system based mainly on the raising and herding of livestock. They seasonally move with their animals from their regular/normal residence to place where fresh pastures and water available.

Satisfied–refers to the patient's perception of care received is above one's expectation or rated satisfaction scored equal to or greater than the mean.

Unsatisfied–refers to patient's perception of care received below one's expectation or rated satisfaction scored less than the mean.

4.13 Ethical Consideration

Ethical clearance was obtained from Institutional Review Board of Jimma University, College of Health Sciences before starting the actual data collection. Subsequent permission was granted from the authorities of Laga Hida Woreda Health Office. Participation of patients in this study was entirely voluntary, and confidentiality was protected by excluding personal identifiers and interview privately.

4.14 Dissemination Plan

The findings of the study will be presented during thesis defense, as a partial fulfillment of Degree of Master in Public Health in Jimma University Department of Epidemiology. After it is approved by the department, it will be submitted to the relevant bodies of JU where it can be used as reference. Besides, it will be communicated to Laga Hida Woreda Health Office, Bale Zone Health Department and other concerned bodies through report. On the top of this, efforts will be made to publish the findings on peer reviewed journals.

5. Results

5.1 Socio-demographic characteristics

Two hundred five (98.5%) of TB patients participated in the study. Of the total study participants, one hundred twenty three (60%) were female and one hundred seventy two (83.9%) were married. The mean age of the respondents was 38 years with SD ±11.26 while most of them (30.2%) were between 15 – 24 years old. One hundred sixty (78%) were residing in rural area when one hundred seventy eight (87%) were pastoralist in occupation wise. Predominantly, one hundred sixty five (80.5%) were Oromo, one hundred ninety one (93.2%) of the respondents were Muslim. In respect of educational status, one hundred eight (52.7%) of the respondents were illiterate and the remaining could at least read and write (Table 1).

Table 1:- Socio-demographic characteristics of TB patients at public health facilities of Laga Hida woreda, Bale Zone August, 2016. (N=205)

Socio-demographic variables	Category	Number	Percent
Sex	Female	123	60
	Male	82	40
Age	15-24	62	30.2
	25-34	28	13.7
	35-44	54	26.3
	45+	61	29.8
Marital status	Single	22	10.7
	Married	172	83.9
	Widowed	11	5.4
Ethnicity	Oromo	165	80.5
	Somale	33	16.1
	Amhara	3	1.5
	Others	4	1.9
Religion	Muslim	191	93.2
	Orthodox	9	4.4
	Protestant	2	1
	Others	3	1.4
Educational status	No formal education	108	52.7
	Read & write only	39	19

	First cycle (1-5 Grade)	32	15.6
	Secondary cycle (6-8 Grade)	19	9.3
	12+	7	3.4
Occupational status	Pastoralist	180	87.8
	Merchant	11	5.3
	Private Business	9	4.3
	Gov. Employee	5	2.6

Key others Waqefata, Adventist, Walayita &Silxe

5.2 Interaction with the provider and institutional aspects

Regarding the general institutional aspect, this study found that, the mean time taken by the respondents to reach the health centers, regardless of the means of transportations, was 62.4 minutes with SD ±15.73. One hundred seventeen (58%) of the total respondents reported that, it took more than 30 minutes for them to get to the health center /DOTS facility/ from their residence while, mean of time spent at waiting for the provider consultation to get the service or their regular Rx was 25.12 minute with SD ±9.45. And 121(59%) of the patients were made kept waiting for $\leq$30min to be served on arrival at the facility (Table 5).

According to the satisfaction of patients with the different aspects of services provided the finding of this study declared that, 103(50.2%) and 116(57%) were satisfied in accessibility of DOTS facility/the health center/ and availability of laboratory services for sputum examination respectively. While, 153(74.6%) were satisfied in adequacy and appropriateness of working hours. With respect to waiting time in the waiting area 123(60%) were satisfied while168 (82%) of the respondents were satisfied by the time spent to them by care providers. Concerning satisfaction to ward cleanliness and comfortableness of waiting area, 113(55%) and 157(76.6%) were respectively satisfied when satisfaction with cleanliness of TB room/where TB patients get service/ and, with the care and concern shown by provider were 167(81%) and 182(88.7%) respectively. Meanwhile relatively higher study participants, 184(89.7%) and 189(92%) were satisfied with the cleanliness of instruments used by the provider to treat or examine them and with the completeness/details/ of the information/about their disease condition and treatment/ given to them respectively (Table 2).

Table 2:- Patients' satisfaction to ward different aspects of TB care services at public health facilities of Laga Hida Woreda. August, 2016. (N= 205).

	Variables	Satisfied	Not Satisfied
		No (%)	No (%)
1	How satisfied are you with the accessibility of DOTS facility?	103(50.2)	102(49.8)
2	How satisfied are you with the availability of laboratory services for sputum examination?	116(57)	89(43)
3	How satisfied are you with the adequacy and appropriateness of working hours of the TB clinic?	153(74.6)	52(25.4)
4	After arriving at the TB clinic, how satisfied are you with the time spent waiting to receive your treatment?	123(60)	82(40)
5	How satisfied are you with the overall comfort/enough comfortable benches/ of the waiting area?	113(55)	92(45)
6	How satisfied are you with the cleanliness of waiting area	157(76.6)	48(23.4)
7	How satisfied are you with the overall cleanliness of the place where you received service?	167(81.4)	38(18.6)
8	How satisfied are you with the cleanliness of any instrument used by the provider to treat or examine you?	184(89.7)	21(10.3)
9	How satisfied are you with the respect offered by the provider?	173(84.3)	32(15.7)
10	How satisfied are you with the care and concern shown by provider?	182(88.7)	23(11.3)
11	How satisfied are you with the amount of time providers spent with you during your visit?	168(82)	37(18)
12	How satisfied are you with the opportunity/invite/ given you to say everything that you think is important?	166(81)	49(19)
13	How satisfied are you with the measures taken to assure confidentiality/privacy)?	171(83.4)	34(16.6)
14	How satisfied are you with the ways of how provider explained things to you/provider's explanation in an understandable way/?	178((86.8)	27(13.2)
15	How satisfied are you with the completeness/details/ of the information/about your disease condition and treatment/ given to you?	189(92)	16(8)
	Overall Satisfaction	144(70.2)	61(29.8)
	Mean 52.73 with SD ±6.25		

5.3 Satisfaction toward the overall tuberculosis care services provision

The study showed that the mean score of the overall patient satisfaction on TB treatment service was 52.73 with SD ±6.25.While, the total TB clients scored equal or above the mean (a cut-off point) meaning satisfied with the general TB care services they received were 144 (70.2%) (Fig.2)

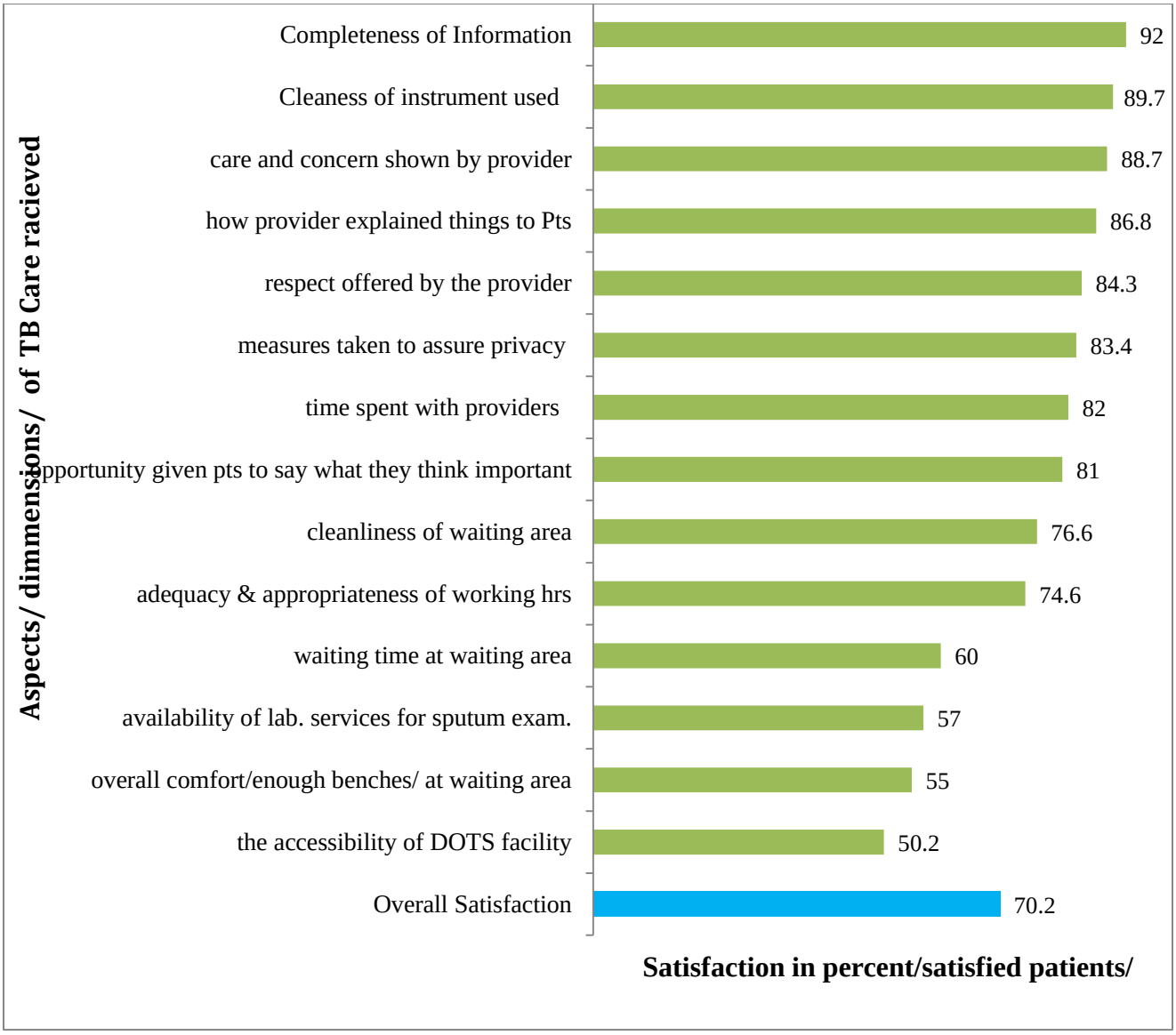

Figure 2:- TB patients' satisfaction with the different components/aspects of TB care at public health facilities of Laga Hida woreda, August, 2016. (N=205)

5.4 Patients' satisfaction with TB care and socio-demographic factors in bivariate analysis

Of the total respondents from the study health facilities, 144 (70.2%) of them were satisfied with the overall TB care services. Regarding socio-demographic characteristics, 71.5% of female, 68.2% of male and 69.1% of respondents who got married were satisfied. While, 83.8% and 67.5% of respondents, whose age category was in the range of 15-24 years and those who are illiterate educational wise were respectively satisfied (Table 3).

Table 3:- Comparison of the overall patients' satisfaction with TB care by socio demographic characteristics/variables in public health facilities of Laga Hida Woreda, August, 2016. N=205

Variables	**Category**	**Satisfaction**			
		Satisfied No (%)	Not satisfied No (%)	COR(95% CI)	P-Value
Sex	Female	88(71.5)	35(28.5)	1	
	Male	56(68.2)	26(31.8)	1.07(0.59, 1.94)	0.8
Age	15-24	52(83.8)	10(16.2)	1	
	25-34	14(50)	14(50)	0.12(0.01, 2.5)	0.35
	35-44	33(61)	21(39)	0.13(0.27, 1.59)	0.30
	45+	45(73.7)	16(26.3)	0.65(0.32, 1.35)	0.26
Marital status	Single	14(63.6)	8(36.4)	0.64(0.36-1.43)	0.47
	Married	123(70.2)	49(29.8)	1	
	Widowed	7(63.6)	4(36.4)	0.74(0.29-1.87)	0.28
Educational status	Illiterates	73(67.5)	35(32.5)	1	
	Read & write only	29(74.3)	10(25.7)	0.67(0.32,1.87)	0.37
	First cycle (1-8 Grade)	24(75)	8(25)	0.57(0.21,1.67)	0.56
	Secondary (9- 12Grade)	14(73.6)	5(26.4)	1.09(0.50,1.39)	0.66
	12+	4(57.1)	3(42.9)	1.27(0.28-2.41)	0.30
Occupational status	Pastoralist	128(71.5)	51(28.5)	1	
	Merchant	6(54)	5(46)	2.57(1.01,10.6)	0.48
	Private Business	5(62.5)	3(37.5)	1.46(0.61,3.45)	0.38
	Employee	4(66.6)	2(33.4)	1.2(0.17-8.88)	0.57

5.5 Patients' satisfaction and provider, and facility related exposure variables in bivariate analysis

Result the study revealed that, among patients who were being told about details of their treatment regimen109 (77.8%) were satisfied toward the TB care they received. While, among TB patients who being told that TB can be cured and among those to whom provider told that what to expect and what to do next 135(70.6%) and 129(72.4%) were respectively satisfied.

Of TB patients who ever visited TB clinics prior and from those who attended by same care provider, 21(87.5%) and 110(70.5%) were respectively satisfied with the overall TB care services they received.

Of the respondents who not ever experienced or faced either of drugs shortage or interruption of laboratory service, 85(72%) were satisfied with overall TB care services while 132(70.5%) of those who interviewed in the language they understand were satisfied.

The study shown, 86.4% of the participants who reported that, they waited for less than 30 minutes at waiting area were satisfied with overall services of the TB care while conversely, 50.5% of those who waited for more than 30 minutes were not satisfied and this was found to be statistically significant in bivariate analysis (P<.001).Results of the analysis also revealed that 71.6% of those not incurred cost for their visits were satisfied (Table 4).

Table 4: Comparison of overall satisfaction with TB care by facility related characteristics & others selected variables in public health facilities of Laga Hida Woreda. August 2016. (N= 205)

Variables	Category	Satisfaction		COR(95% CI)	P-Value
		Satisfied No (%)	Not satisfied No (%)		
Ever visited the clinic for TB services before	Yes	21(87.5)	13(12.5)	1	
	No	123(71.9)	48(28.1)	0.77(0.34, 1.72)	0.53
Suspect own self for TB prior to visit health facility	Yes	54(74)	19(26)	1	
	No	90(68)	42(32)	1.03(0.00,1.67)	0.99
Ever experienced shortage or interruptions of services	Yes	59(67.8)	28(32.2)	1	
	No	85(72)	33(28)	0.81(0.44, 1.49)	0.51
Communicate/Interviewed/ by language you can understand or by yours	Yes	132(70.5)	54(29.5)	1	
	No	12(66.6)	7(33.4)	1.42(0.53,3.8)	0.48
Attended or seen by same care provider	Yes	110(70.5)	46(29.5)	1	
	No	34(69)	15(31)	1.05(0.52, 2.12)	0.88
Incur cost for the visit	Yes	63(68.4)	29(31.6)	1	
	No	81(71.6)	32(28.4)	0.8(0.23, 2.05)	0.83
Length of time spent at waiting area to get their Rx	< 30 min	86(89.5)	10(10.5)	0.154(0.085, 0.3)	0.000*
	30min - 1hr	58(53.2)	51(46.8)	1	
Provider told you that TB can be cured	Yes	135(70.6)	56(29.4)	1	
	No	9(64.2)	5(35.8)	1.133(0.43,4.17)	0.61
Counseled on HIV test	Yes	123(71.4)	49(28.6)	1	
	No	21(63.6)	12(36.4)	1.43(0.65, 3.13)	0.36
Provider told you that for which form of TB getting Rx	Yes	88(78.5)	32(21.5)	1	
	No	56(65.8)	29(34.2)	1.07 (0.59, 1.93)	0.8
Provider told you that possible side effects	Yes	109(77.8)	31(22.2)	1	
	No	35(53.8)	30(46.2)	2.82(1.5, 5.3)	0.001*
Collecting anti-TB drugs	On daily basis at H/Center	49(69)	22(31)	1	

	Taking at H/Post	41(73)	15(27)	0.69(0.22, 2.17)	0.53
	At home under supporter supervision	40(67.7)	19(32.3)	1.18(0.35, 3.9)	0.78
	Taking for self administration	14(73.6)	5(26.4)	0.75(0.23, 2.39)	0.62
Provider told you that what to expect, and what to do next	Yes	129(72.4)	49(27.6)	1	
	No	15(55.5)	12(44.5)	2.1(0.92, 4.8)	0.078*

N.B- *P-value equal or less than 0.25, these variables are used for final multivariate logistic regression model.

5.6 Factors independently associated with Patients' Satisfaction towards Tuberculosis Care in Multivariate analysis

Among a number of factors/co-variants/ included in this study, being informed about the regimen & length of waiting time spent at waiting area were found significantly associated with patients' overall satisfaction to ward TB care (Table. 5).

The result of analysis revealed that, patients who not informed about the side effects of the regimen/drug were 0.22 less likely to satisfied with overall TB care services than those who informed about the side effects of the regimen/drug.

On the other hand patients who were kept or waited for more than 30 minutes in the waiting area to get their regular Rx were 0.11 less likely to be satisfied compared with those who waited for equal or less than 30 minutes.

Table 5:- Multivariate Logistic regression analyses for factors affecting patients' satisfaction with TB care in Public Health Laga Hida Woreda, August 2016. N=205

Variables	Satisfaction		COR (95%)	AOR (95%)
	Satisfied No (%)	Not satisfied No (%)		
Provider told you that possible side effects				
Yes	109(77.8)	31(22.2)	1	1
No	35(53.8)	30(46.2)	2.82(1.5, 5.3)	0.22(0.09, 0.55)
Length of time spent at waiting area to get the service/Rx/				
< 30 min	83(86.4)	13(15.6)	0.16(0.08, 0.3)	0.112(0.046, 0.26)
30min – 1hr	54(49.5)	55(50.5)	1	1

6. Discussion

Patient compliance is a key factor in treatment success. Satisfied client is more likely to comply with prescribed medical treatment and completion of treatment. This is crucial for Tuberculosis prevention control programs. Thus observing tuberculosis (TB) patients' satisfaction is of paramount importance for making the service more responsive to patients. This study attempted to investigate the status of patient satisfaction with TB care and associated factors among TB patients in public health facilities of Laga Hida Woreda. In this study, majority (70.2%) of TB treatment attendees were satisfied with the overall TB care services they received.

The previous comparable studies on TB treatment attendees performed in Bahirdar and in Afar, Ethiopia, showed similar proportion of patients satisfied with the overall TB care services they received (69.7%) and (70.3%) respectively[10, 30], as did another study performed in Addis Ababa, Ethiopia (75%) [9]. In contrast another study performed in Central Shewa, Ethiopia (62.6%) was slightly lower [25]. The difference might be explained in terms of study period gab and geographical difference between the study areas.

When discussed with TB patients' satisfaction to ward different aspects TB care higher study participants, 184(89.7%) and 189(92%) were satisfied with the cleanliness of instruments used by the provider to treat or examine them and, with the completeness of the information/about their disease condition and treatment/ given to them respectively. While, less percents of the patients were satisfied with accessibility to DOTS facility/the health center/ (50%) and with overall comfort of the waiting area (55%).

This high result of information sharing aspect (92%) could be expected in the DOTS care because of it is the strict specific area of TB care in relation to the patients' compliance. Because, providing patients with relevant and useful information is linked with increased patient compliance and that strictly recommended by NTLC guideline, and of utmost priority for TB control programs. So health care providers might have gave attentions for the essential information on TB and often tries to supply to the patients to motivate them and to recognize the importance of behavioral skills in improving health.

Other studies have also reported high level of patient satisfaction with the completeness of in formations about TB treatment service and health care service received [9, 30, 33]. In contrary,

this is quite a high satisfaction rate when compared to the study conducted in Tigray with 53.3% satisfaction rate [34]. The reason for the big difference could be due to the difference in the number and type of health care providers in those mentioned service delivery places and the variety of activities they run in their respective areas.

Attempts made to identify determinants of patient‘s satisfaction toward TB care depicted that none of socio-demographic variables were significantly associated with overall satisfaction of the TB care service. This implies that socio-demographic factors were not attributed to the overall satisfaction rate (70.2%) of the study participants.

This result is similar to a study on patients' perspectives of the quality of tuberculosis treatment services in South Ethiopia [17]. In contrast, in a study performed in central Shewa, marital status, residence, educational status, and occupational status appeared to be significantly associated with satisfaction [25]. These differences might be attributed to variations in scope, study setting, and study period.

The result of analysis revealed that, being informed about possible side effects of the regimen/drug/ was found to be the factor that significantly associated with satisfaction. Patients those who being not informed about possible side effects of the regimen/drug/ were 0.22 less likely to satisfied than those who were informed about possible side effects of the regimen [AOR=0.22, 95% CI: 0.09, 0.55**]**. This could be because the patients who were aware of the possible side effects of the drug may not worried with what new happened to them since they already informed about while those who not informed or have awareness might be stressed with. A study conducted in Hadiya, South Ethiopia revealed informing patients about the possible side effects of TB drugs was identified as an important issue impacting on quality thus affecting client satisfaction (17).

The study findings also revealed that, overall satisfaction was found to be significantly associated with waiting time. Patients who were kept or waited for more than 30 minutes in the waiting area to get their regular Rx were 0.11 less likely to satisfied compared with those who waited for $\leq$30 minutes.[AOR=0.11, 95% CI: 0.046, 0.26**]**. These variables were also found to be determinants of patients' satisfaction with TB care and others health care services in studies conducted elsewhere [9, 17, 34].

In a study conducted in Nigeria long waiting time to get the services was found to be associated with low satisfaction (16). In agreement with this study long waiting time to get the services was found to be one of the sources for the clients' dissatisfaction in Mekelle referral hospital (34). Similarly most studies showed that waiting time strongly influence the level of client satisfaction [9, 10, 29], which can lead to service rejections by the patients and defaulting which can lead to incomplete treatment, treatment failure, and drug resistances.

Strengths of the Study

As to the strengths of this study, important aspects/components of TB care services that can attribute to satisfaction on TB care were included to be assessed. Data quality assurance measures like a Cronbach's alpha reliability test, pretesting, data collectors training, and, supervision were employed.

Limitation of the study

With regard to limitation of this study, the respondents may represent a fearful way of expressing dissatisfaction or the real perceptions about the services received. This is likely because the interview was undertaken within the health centers and that respondents may have been reluctant to express their dissatisfaction for fear of antagonizing service providers. Information biases due to social desirability were the other possible limitation of this study. Additionally, this study is descriptive and cross-sectional and therefore, did not capture changes in patient satisfaction over time. Why because patient satisfaction and its determinants more likely to be changed over time as a result of changes in societal trends in health-care attitudes, and changes in utilization patterns.

7. Conclusion and Recommendation

7.1 Conclusion

The findings from this study showed that majority of the respondents were satisfied toward the overall TB care they received, however, large differences in proportions of satisfaction were observed among different aspects of TB care included in this study. Where, nine in ten which is highest proportion of satisfaction observed toward completeness of information while only a small proportion that is less than six in ten of the study participants were satisfied with continuity of laboratory services for sputum examination, overall comfort of waiting area and physical accessibility aspect of TB care services. Thus, laboratory services, overall comfort of waiting area and physical accessibility of TB care were identified as the area where almost half of the study participants were expressed unsatisfied.

Moreover, this study highlights the specific areas of TB care services provision that could be targeted for improvement by concerned bodies. Thus, the most significant factor for the patients' satisfaction with TB care service was information provision on the side effects of the regimen. This shows that, how well the provider informs the patients about the possible side effects of the regimen is crucial in improving patient satisfaction. The second predictor for being satisfied was the length of time spent in the waiting area. Therefore reducing waiting times (to 30 min at most) was more important to the patients.

7.2 Recommendations

Based on the findings, of the following were recommended:

- **For health care providers**
  - Although substantial result was seen regarding satisfaction on information completeness, providers need to take advantage of the time they spend with patients by providing great emphasis for information on the possible side effects of the regimen.
  - Efforts should be made to serve the patients within a short time (to 30 min at most) on arrival at TB clinic or facility.

- **To all Primary Health Unit Administrations**

  - Improving the treatment service process should be given due attention to reduce time spent in the waiting area.
  - Administrations of health centers in the district are in need to consider accommodation of waiting area with enough comfortable benches, cleanness in weighting area and/or generally for overall comfort of waiting area.
  - Also, laboratory service for sputum examination identified as the areas where greater dissatisfaction was observed so the administration bodies of health centers should look for the possible short come or gabs and overcome the problems.

- **To Laga Hida woreda health office**
  - Capacity strengthening supports for the health centers should be considered to improve infrastructure specially to make the waiting area more conducive.
  - At all health centers, should try to look for interruption of laboratory supply, human power specially laboratory personnel and others possible gabs that may considered as to raise complain by the clients and accordingly came up with workable solutions for the problems

- **Area of further research**

- Similar study supported by qualitative techniques should be done involving perspectives of the service providers and the facility management to generate more supportive evidence.

ANNEXES

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Consent form

Questionnaire code_____

Hi, how are you? I am working as data collector in a study conducted by the Astewale Asfawu; who attending his MPH in Epidemiology at Jimma University. I brought these questions to you in order to find out conditions **Satisfactions toward TB care and associated factors** at public health facilities of Laga Hida Woreda. The purpose of this study is to get more information on factors affecting Satisfaction with TB care services that can be used to design appropriate intervention so as to address satisfaction of the patients toward TB care they receives. Therefore, your honest and genuine participation by responding to the questions prepared is highly appreciated and helpful to attain the objective of the study. Your name will not be written on this form and no individual response will be reported to anybody. Hence, your answers are completely confidential. You do not have to answer any question that you don't want to answer and you may refuse to answer all of the questions. Please, if you cooperate by responding to the questions it means that you have your own contribution to the success of this study. If you have questions regarding this study or would like to be informed of the results after its completion, please do not hesitate to contact

Mr. Astewale Asfawu (091-282-5063); e-mail- asfawudab04@yahoo.com

\Would you willing to answer?

If yes, -------proceed to the next page

If no, -------- please stop here.

Thank You!

Annex 2. Data collection tools

Exit interview tools

Name of Health Center _____

Name of Interviewer _____

Part- I: Socio-demographic, Socio-economic & others general background		
S.No.	**Questions**	**Response Category**
1	Residence of the patient	1. Urban 2. Rural
2	Sex of the patient	1 Male___. 2 Female____
3	Age of the patient	_____(in years)
4	Marital Status	1. Single 3.Divorced 2. Married 4. Widowed
5	Educational status	1. Illiterate 2. Read &Write 3. 1-6 grade 4) 6-12 grade 5) Above 12 grade
6	Religion	1. Muslim 3. Protestant 2. Orthodox 4. Other (specify)
7	Occupation	1. Pastoralist 2. Agro-pastoralist3. Gov't employee 4. Private Business 5. Merchant 6. Other(specify)
8	What is your approximate monthly income in Birr?	_____ birr
9	Have suspect yourself for TB prior to visit health facility for your cough/illness	1. Yes 2. No
10	Have you ever visited the clinic for TB services before?	1. Yes 2. No
Part II: Health facility and/or provider related questions		
11	How long (minutes/hours) does it normally take you to get to the health center/the TB clinic?	_____ Minuets /hours
12	Do you incur cost for your visit?	1. Yes 2. No
13	If yes, for what purpose?	1. Transport 2. Food 3 laboratory

		services 4. Other (specify)
14		
15	Concerning DOTS, how you are collecting anti-TB drugs?	**1).** Taking on daily basis at H/Center **2).** I am taking at H/Post 3**)**. I am taking at home under supporter supervision **4).**I'm taking for self – administration
16	How long have you waited today to receive your treatment?	_____ (minutes/hours)
17	Have you ever experienced shortage or interruption of any TB care service (drugs or Lab. Service, etc) that you need to treat your problem of during your treatment period?	1. Yes 2. No
18	If yes, please list any services, which are interrupted/not available/ at the clinic but are important to meet your need?	1.lack of H/Worker in TB clinic, 2. Interruption of lab. services 3. Interruption of anti-Tb drugs. 4. Others/specify/_____
19	During your treatment, would you attended by same provider?	1. Yes 2. No
20	Can providers communicate/Interview/ by language you can understand or by yours?	1. Yes 2. No
21	Do provider told you that TB can be cured?	1. Yes 2. No
22	Do you informed how you can prevent/stop spreading of TB to others*?*	1. Yes 2. No
23	Do provider told you that individual with cough of two weeks or more duration is a TB suspect and must be evaluated for TB?	1. Yes 2. No
24	Do provider told you that with which form of TB was you diagnosed/are you getting Rx?	1. Yes 2. No
25	Do provider told you about possible side effects/details of treatment regimen?	1. Yes 2. No
26	Do provider told you that what to expect, and what to do next?	1. Yes 2. No
27	Do you counseled on HIV test?	1. Yes 2. No

Part III: Questioner for TB patients' satisfaction with TB care service they received

Dimensions to measure satisfaction with TB care		
S.No	**Questions**	
I	**Consultation and Relational Empathy**	
1	How satisfied are you with the respect offered by the provider during your visit?	**1).**Highly dissatisfied **2).** Somewhat dissatisfied **3).**Neither satisfied nor dissatisfied **4).** Moderately satisfied **5).**Highly satisfied
2	How satisfied are you with care and concern shown by provider?	**1).**Highly dissatisfied **2).** Somewhat dissatisfied **3).**Neither satisfied nor dissatisfied **4).** Moderately satisfied**5).**Highly satisfied
3	During your service visits, how satisfied are you with the invite/opportunity given you to say everything that you think is important?	**1).**Highly dissatisfied **2).** Somewhat dissatisfied **3).**Neither satisfied nor dissatisfied **4).** Moderately satisfied**5).**Highly satisfied
4	How satisfied are you with the time the health worker spent with you during your visit?	**1).**Highly dissatisfied **2).** Somewhat dissatisfied **3).**Neither satisfied nor dissatisfied **4).** Moderately satisfied**5).**Highly satisfied
5	How satisfied are you with measures taken to assure confidentiality/privacy)	. **1).**Highly dissatisfied **2).** Somewhat dissatisfied **3).**Neither satisfied nor dissatisfied **4).** Moderately satisfied**5).**Highly satisfied
II	**Information sharing and or communication**	
6	How satisfied are you with completeness of the information health provider give you about your disease condition, medications and treatment procedure	**1).**Highly dissatisfied **2).** Somewhat dissatisfied **3).**Neither satisfied nor dissatisfied **4).** Moderately satisfied **5).**Highly satisfied

7	How satisfied are you with the ways health provider's explained things/ in understandable way / to you?	**1).**Highly dissatisfied **2)**. Somewhat dissatisfied **3).**Neither satisfied nor dissatisfied **4)**. Moderately satisfied**5).**Highly satisfied
III	**Accessibility &/or Availability**	
8	How satisfied are you with the accessibility of DOTS facility/to the health center/?	**1).**Highly dissatisfied **2)**. Somewhat dissatisfied **3).**Neither satisfied nor dissatisfied **4)**. Moderately satisfied **5).**Highly satisfied
9	How satisfied are you with availability of laboratory services for sputum examination?	**1).**Highly dissatisfied **2)**. Somewhat dissatisfied **3).**Neither satisfied nor dissatisfied **4)**. Moderately satisfied **5).**Highly satisfied
10	How satisfied are you with the adequacy & appropriateness of the working hours of the TB clinic?	**1).**Highly dissatisfied **2)**. Somewhat dissatisfied **3).**Neither satisfied nor dissatisfied **4)**. Moderately satisfied **5).**Highly satisfied
IV	**Waiting Time**	
11	After arriving at the TB clinic, how satisfied are you with the time spent waiting to receive your treatment?	**1).**Highly dissatisfied **2)**. Somewhat dissatisfied **3).**Neither satisfied nor dissatisfied **4)**.Moderatelysatisfied**5).**Highly satisfied
V	**Infra-structures/Physical setting**	
12	How satisfied are you with the overall comfort/enough comfortable benches/ of the waiting area?	**1).**Highly dissatisfied **2)**. Somewhat dissatisfied **3).**Neither satisfied nor dissatisfied **4)**. Moderately satisfied**5).**Highly satisfied
13	How satisfied are you with the over cleanliness of the examination room/place where you received service?	**1).**Highly dissatisfied **2)**. Somewhat dissatisfied **3).**Neither satisfied nor dissatisfied

		4). Moderately satisfied**5).**Highly satisfied
14	How satisfied are you with the cleanliness of any instrument or equipment used by the health workers to treat or examine you?	**1).**Highly dissatisfied **2)**. Somewhat dissatisfied **3).**Neither satisfied nor dissatisfied **4)**. Moderately satisfied**5).**Highly satisfied
VI	**Overall satisfaction**	
15	I am totally satisfied with the visit	1. Strongly disagree 2. Disagree 3. Neither agree nor disagree 4. Agree 5. Strongly agree
16	If you had other options, you would prefer to complete your TB treatment in this same center	1. Strongly disagree 2. Disagree 3. Neither agree nor disagree 4. Agree 5. Strongly agree
17	I will advise my friends or relatives to see this provider.	1. Strongly disagree 2. Disagree 3. Neither agree nor disagree 4. Agree 5. Strongly agree

Thank you for your cooperation!

Guca eeyyama

Koodii gaafilee_____

Heloo, akkam jirtan? Maqaan koo Astewale Asfawu Dhaaba jeedhama. Yeroo ammaa kana anii barataa digrii 2ffaa Univarsitii Jimmaatti, Kollejii Saayinsii Fayyaa, dipartimantii "Epidemiology" Kan baradhu yoo ta'uu mata duree Ittiquufiinsa Tajaajila Yaala Dhukkuba Daranyoo Sombaa irratti Buufataale Fayyaa Aanaa Laga Hidhaa irratti kan hojadhuu yoo ta'uu, Sababiin qu'annoo kanaas itti quufiinsi tajaajila yaala dhukkuba daranyoo sombaa irratti jiru hammam tokko akka ta'ee beekuu fi wantoota itti quufiinsi tajaajila yaala dhukkuba daranyoo sombaa walqabatan beekuudhaaf. Kanaafu fedhii kee yoo ta'ee gaafilee Ittiquufiinsa Tajaajila Yaala Dhukkuba Daranyoo Sombaa irratti gaafilee armaan gaditti dhiyaatan kana akka naaf deebistan kabajaan kan isin gaafadhu yoo ta'uu, deegarsii isin naaf gootan galma ga'insa qo'annoo kanaatiif bakka guddaa qaba.

Deebiin isin naf kennitan guutuumaan guutuutti iccitiin isaa kan eegamu ta'a. Gaafiilee armaan gadiitti dhiyaatan kanneen keessaa kan deebisuu hin barbaannee yoo jiratee deebisuu dhiisuu ni dandeesu ykn guutuummaan guutuutti dhiisuu ni dandeessu. Gaafiilee kana yoo deebistee deegarsii kee galma gahiinsa qo'annoo kana irratti bakka guddaa qaba. Yeroo ragaa kana guuttan gaafiileen isiniif hin gallee yoo jiraatee fi bu'aa qo'annoo kana yoo barbaadan soda tokko malee **Obboo Astewale Asfawu** dubbisuu ni dandeessu. (**Lakk. Mobile-091-282-5063); e-mail- asfawudaba04@yahoo.com**

Deebii kennuf fedhii qabduu?
Eyyeen, yoo ta'ee------ gara fuula itti aanutti darbuu ni dandeessu.

Lakki, yoo ta'ee-------- asumatti dhaabuu dandeessu.

Galatoomaa!

Aneeksi 2. Gaaffanno/Uunkaa Ragaa Itti Quufinsa Kenniinsa Tajaajila Yaala Dhukkuba Daranyoo Sombaa(DDS) Itti Guuramu

Maqaa Buufata Fayyaa _____

Maqaa Raga Gaafataa _____

Kutaa- I: Ragaa Nama dhuunfaa fi kan waliigala kan biroo		
T.L	**Gaaffii**	**Deebii**
1	Bakka Jireenya Dhukkubsata	1. Magaala 2. Baadiyya
2	Saala	1 Dhiira. 2 Dhalaa
3	Umurii	_____(Waggaan)
4	Haala Bultii Ijaarachu/Eeruma ilaalchise	1. Kan hin eerumin 3.Kan jalaa du'e/te 2. Kan eerumte 4. Kan waliikan
5	Sadarkaa Barumsa	1. Kan hin baranne 2. Dubbisuu fi Barreessu 3. Kutaa 1-6 4) Kutaa 6-12 5) 12 Oli
6	Amantaa	1. Muslima 3. Protestanti 2. Ortodoxi 4. Kan biraa (Adda baasi)
7	Dalagaa/Hojii	1. Horsiise Bulaa 2. Horsiise bulaa fi Qonnaan 3. Hojjetaa mootumma 4. Dhaabbata dhuunfaa 5. Daldalaa 6. Kan biraa (Adda baasi)
8	Galiin keessan Tilmaaman ji'atti meeqa?	_____ Qarshiin
9	Osoo Garaa mana yaala kana hin dhufin dhukkuba DDS of shakkitanii beektuu?	1. Eeyye 2. Lakkii
10	Gara Kutaa yaala DDS kana dhuftanii beektu as-dura?	1. Eeyye 2. Lakkii
Kutaa II: Gaaffii/Ragaa Dhaabbata Fayyaa fi Ogeessaan Walqabate		
11	B/Fayyaa kana gahuuf sa'aati meeqa isinitti fudhata?	_____ Daqiiqa/sa'aati
12	Yeroo tajaajila yaala DDS kanaf dhuftan baasii qarshii ni baaftuu?	1. Eeyye 2. Lakkii

13	Yoo eeyye ta'ee maaliif baaftan?	1. Geejibaaf 2. Nyaataf 3 Tajaajila laabiraatoriif 4. Kan biraa (Adda baasi)
14	Dawaa guyya guyyaan fudhachuun walqabatee bifa kamiin fudhattu?	**1).** Guyyaan B/Fayyaa dhufuun **2).** Guyyaan K/Fayyaatti dhufuun 3**)**. Manatti Gargaara fayyaattiin deegarameen fudha **4).** Ofumaan manatti fudhee yeroon fixu deebi'aa
15	Erga buufata fayyaa kana dhuftanii/geessanii hangam turtanii tajaajila argatan?	_____ Daqiiqa/sa'aati
16	Yeroo yaala DDS keessanii kana keessatti addaan citiinsi tajaajila isin barbaachisuu/Dawaas ta'ee ykn Labiraatoris/ isin mudatee beekaa?	1. Eeyye 2. Lakkii
17	Yoo eeyyee ta'ee tajaajila kamtu isin jalaa addaan cite ykn dhabamee beeka?	1.oggeessa gola yaala DDS dhabuu 2. Addaan citiinsa tajaajila laabiraatorii 3. Addaan citiinsa dawaa DDS 4. Kan biraa (Adda baasi)
18	Yeroo turtii yaala keessanii kanatti yeroo hedduu ogeessuma tokkoon tajaajilamaa turtanii?	1. Eeyye 2. Lakkii
19	Ogeessa fayyaa isin tajaajiluun afaan tokko ykn afaan isiini galuu danda'uun dubbattu?	1. Eeyye 2. Lakkii
20	Dhukkubni DDS kun kan irraa fayyan akka ta'e ogeessi waan isinitti qabaa?	1. Eeyye 2. Lakkii
21	Tooftaale dhoukkuba kana akka nama biraati hin tarre ykn hin tatamsaane godhan iarrtti ogeessi waan isin hubachiise qabaa*?*	1. Eeyye 2. Lakkii
22	Namni qufaan torbee lamaa fi isaa oli irra turee tokko shakkamaa DDS ta'uu fi innis mana yaalaatti ilaalamu akka qabu ogeesssi waan isiniif ibse qaba ?	1.Eeyye 2. Lakkii
23	Dhukkuba Daranyoo Sombaa gosa kamiin akka qabamtan beektu ?	1.Eeyye 2. Lakkii
24	Ogeessi fayya waa'ee dawaa fudhatanuu kana agdi fageenyaan waan isiinif ibse qabaa?	1. Eeyye 2. Lakkii
25	Ogeessi fayaa maal gochuu akka qabdanii fi maaltu akka isin irraa akka eeggamu waan isiniif ibse qabaa?	1. Eeyye 2. Lakkii
26	Tajaajila gorsaa fi qorannoo HIV argattaniittu?	1.Eeyye 2. Lakkii

Kutaa III: Gaaffi Dhukkubsattootni Dhukkuba Daraynoo Sombaa Itti Quufiinsa Kenniinsa Tajaajila DDS Irratti Qaban Ittin Sakata'uuf Qopha'e

Kallattiiwwan Itti Quufiinsa Kenniinsa Tajaajila DDS Ittiin Safaramu		
T.L	**Gaaffii**	**Deebii**
I	**Haala/Akkaata kenniinsa tajaajila fi simannaa ogeessa**	
1	Yeroo tajaajila kanaaf dhuftan kabaja/ulfina ogeessi isiniif kennu itti quufiinsa isaa bifa kamiin ibsitu ykn hangam itti gammaddan ?	**1).**Tasumaa itti hin quufne **2)**.Hanga ta'ee wayii itti hin quufne **3).**Itti quufeeras itti hin quufnes hin jedhu **4)**. Hanga ta'ee wayii itti quufeera **5).** Baay'iseen itti quufe
2	Kunuunsaa fi waa'ee keessaniif dhimmammu ogeessatiin wal-qabatee hangam itti quuftan?	**1).**Tasumaa itti hin quufne **2)**.Hanga ta'ee wayii itti hin quufne **3).**Itti quufeeras itti hin quufnes hin jedhu **4)**. Hanga ta'ee wayii itti quufeera **5).** Baay'iseen itti quufe
3	Yeroo tajaajila kana isiniif kennu keessatti yaala/dhukkuba keessaniin walqabee yoon gaafadhe ykn yoon kaasee gaariidha jettanii kan yaaddan akka feetanitti kaasuuf carraa ogeessi isiniif kennutti hangam itti quuftan?	**1).**Tasumaa itti hin quufne **2)**.Hanga ta'ee wayii itti hin quufne **3).**Itti quufeeras itti hin quufnes hin jedhu **4)**. Hanga ta'ee wayii itti quufeera **5).** Baay'iseen itti quufe
4	Yeroo tajaajila kana isiniif kennu keessatti sa'aati ogeessi isin waliin turutti hangam itti quuftan?	**1).**Tasumaa itti hin quufne **2)**.Hanga ta'ee wayii itti hin quufne **3).**Itti quufeeras itti hin quufnes hin jedhu **4)**. Hanga ta'ee wayii itti quufeera **5).** Baay'iseen itti quufe
5	Iccitii keessan eeguuf/eegsissuf tarkaanfii fudhatamu ykn ogeessi fudhatu irratti hangam itti quuftan?	**1).**Tasumaa itti hin quufne **2)**.Hanga ta'ee wayii itti hin quufne **3).**Itti quufeeras itti hin quufnes hin jedhu **4)**. Hanga ta'ee wayii itti quufeera **5).** Baay'iseen itti quufe

II	**Kenniinsa tajaajila odeeffanno fi/ykn kominikeeshini**	
6	Dhimma dhukkuba, dawaa fi akkaa yaala keessan ilaalchisee odeeffanno ykn ergaa ogeessi isinnif kennu irratti hangam itti quuftan?	**1)**.Tasumaa itti hin quufne **2)**.Hanga ta'ee wayii itti hin quufne **3).**Itti quufeeras itti hin quufnes hin jedhu **4)**. Hanga ta'ee wayii itti quufeera **5).** Baay'iseen itti quufe
7	Odeeffannoo ogeessi isiniif kennuun keessatti akkaata ogeessi isiniif itti ibsu walqabatee hangam itti quuftan?	**1)**.Tasumaa itti hin quufne **2)**.Hanga ta'ee wayii itti hin quufne **3).**Itti quufeeras itti hin quufnes hin jedhu **4)**. Hanga ta'ee wayii itti quufeera **5).** Baay'iseen itti quufe
III	**Dhaqqabamiinsa fi/ykn Dhiheessi**	
8	Dhaqqabamiinsa B/Fayyaa ykn wiirtuu yaala dawaa DDS irratti hangam itti quuftan?	**1)**.Tasumaa itti hin quufne **2)**.Hanga ta'ee wayii itti hin quufne **3).**Itti quufeeras itti hin quufnes hin jedhu **4)**. Hanga ta'ee wayii itti quufeera **5).** Baay'iseen itti quufe
9	Dhiheessi tajaajila laabiratoori qoranno hakkee irratti hangam itti quuftan?	**1)**.Tasumaa itti hin quufne **2)**.Hanga ta'ee wayii itti hin quufne **3).**Itti quufeeras itti hin quufnes hin jedhu **4)**. Hanga ta'ee wayii itti quufeera **5).** Baay'iseen itti quufe
10	Sa'aatiin yeroo hojii gola yaala DDS gahaa ta'uu fi kan namaa mijatu ta'uu isaan walqabatee hangam itti quuftan?	**1)**.Tasumaa itti hin quufne **2)**.Hanga ta'ee wayii itti hin quufne **3).**Itti quufeeras itti hin quufnes hin jedhu **4)**. Hanga ta'ee wayii itti quufeera **5).** Baay'iseen itti quufe
IV	**Waiting Time**	
11	Erga buufata fayyaa kana geessanii dheerina sa'aati turtanii tajaajila argatan walqabatee hangam itti quuftan?	**1)**.Tasumaa itti hin quufne **2)**.Hanga ta'ee wayii itti hin quufne **3).**Itti quufeeras itti hin quufnes hin jedhu **4)**. Hanga ta'ee wayii itti quufeera **5).** Baay'iseen itti quufe
V	**Infra-structures/Physical setting**	

12	Iddoo haaragalfanna mijataa /teesso gahaa fi mijataa/ ta'uun walqabatee hangam itti quuftan?	**1).**Tasumaa itti hin quufne **2)**.Hanga ta'ee wayii itti hin quufne **3).**Itti quufeeras itti hin quufnes hin jedhu **4)**. Hanga ta'ee wayii itti quufeera **5).** Baay'iseen itti quufe
13	Qulqullina gola yaala DDS ykn kutaa tajaajila itti argatanuun walqabatee hangam itti quuftan?	**1).**Tasumaa itti hin quufne **2)**.Hanga ta'ee wayii itti hin quufne **3).**Itti quufeeras itti hin quufnes hin jedhu **4)**. Hanga ta'ee wayii itti quufeera **5).** Baay'iseen itti quufe
14	Qulqullina meeshaa yaala ykn kan biroo ittiin isin yaaluuf ykn tajaajiluuf ogeessi fayyadamu ilaalchisee hangam itti quuftan?	**1).**Tasumaa itti hin quufne **2)**.Hanga ta'ee wayii itti hin quufne **3).**Itti quufeeras itti hin quufnes hin jedhu **4)**. Hanga ta'ee wayii itti quufeera **5).** Baay'iseen itti quufe
VI	**Itti Quufiinsa Waliigala Kenniinsa Tajaajila Yaala Dhukkuba Daranyoo Sombaa(DDS) Irratti**	
15	Akka waliigalaatti/guutummaa tajaajila kiyya hardhaatti quufeen jira.	1. Kana irratti goonkumaa/sirumaa walii hin galu 2. Kana irratti walii hin galu 3. Kana irratti waliin galas walii hin galus hin jedhu 4. Kana irratti waliin gala 5. Kana irratti baay'iseen waliin gala
16	Fillannoo biraa osoo argadhees yaala kiyya asumatti/Buufata kanatti/ xumuruun irra filadha .	1. Kana irratti goonkumaa/sirumaa walii hin galu 2. Kana irratti walii hin galu 3. Kana irratti waliin galas walii hin galus hin jedhu 4. Kana irratti waliin gala 5. Kana irratti baay'iseen waliin gala
17	Ani borumaafu hiryoota kiyya ykn firoota kiyya ogeessa kana bira akka jarri dhufanun dhaamaaf/godha.	1. Kana irratti goonkumaa/sirumaa walii hin galu 2. Kana irratti walii hin galu 3. Kana irratti waliin galas walii hin galus hin jedhu 4. Kana irratti waliin gala 5. Kana irratti baay'iseen waliin gala

Galatooma!