



**SALALE UNIVERSITY COLLEGE OF HEALTH SCIENCES**

**DEPARTMENT OF PUBLIC HEALTH**

**SATISFACTION WITH PHARMACEUTICAL SERVICE AND  
ASSOCIATED FACTORS AMONG CHRONIC NON-  
COMMUNICABLE DISEASE PATIENTS AT PUBLIC  
HOSPITAL IN EAST SHOA ZONE, OROMIA, ETHIOPIA, 2024**

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**SATISFACTION WITH PHARMACEUTICAL CARE AND ASSOCIATED  
FACTORS AMONG CHRONIC NON-COMMUNICABLE DISEASE  
PATIENTS AT PUBLIC HOSPITAL IN EAST SHOA ZONE, OROMIA,  
ETHIOPIA, 2024**

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## ABSTRACT

**Background:** Patient satisfaction with pharmaceutical service is an important and commonly used indicator for measuring the quality of medical care. However, health systems in low-income countries are often not equipped to provide adequate care for patients with chronic illnesses. They are primarily designed to address acute infectious and parasitic diseases. In Ethiopia; the pharmacy service has faced several gaps, including low patient satisfaction and poor availability of essential pharmaceuticals. Previous studies have shown variations in the magnitude of client satisfaction, and there is currently limited research available in the study area.

**Objective:** the objectives of this study were to assess level of satisfaction with pharmaceutical care and associated factor among chronic non-communicable disease patients at public hospital in East Shoa Zone, Oromia, Ethiopia, 2024

**Methods:** A facility based cross sectional study was conducted in East Shoa Zone, Ethiopia. A systematic random sampling technique was used to select 411 study participants. Data were collected through a face-to-face interview using a structured questionnaire and entered using EpiData version 4.6 and analyzed using SPSS version 25. Descriptive statistics such as mean, percentage, and frequency were calculated. A multivariable logistic regression was used to identify associations between dependent and independent variables and significant associations was identified based on a p-value of less than 0.05 and an adjusted odds ratio with 95% confidence interval.

**Results:** The overall level of patient satisfaction was 48.9% (95% CI: 44, 54). Factors associated with patient satisfaction included being unable to read and write (AOR = 4.0 95% CI = 1.44–11.05), obtaining some prescribed medications (AOR = 0.39, 95% CI = .21–.70), living in rural areas (AOR = 1.96, 95% CI = 1.12–3.44), and having insurance coverage (AOR = 2.32, 95% CI = 1.85–4.20).

**Conclusion:** This study revealed that patient satisfaction towards pharmaceutical service was low. Residence, level of education, payment status and availability of drugs showed significant association with patient satisfaction. Availing drugs and insured patients to improve patient satisfaction

**Keywords:** patient satisfaction, chronic non- communicable disease, pharmaceutical service

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## **ACRONYMS AND ABBREVIATIONS**

AOR	Adjusted Odd Ratio
CHF	Congestive heart failure
CL	Confidence Level
CVD	Cardio Vascular Disease
LMIC	low- and middle-income countrie
NCD	Non communicable diseases
NRR	Non-Response Rate
VIF	Variance inflation factor
WHO	World Health Organization

# 1. INTRODUCTION

## 1.1. Background

Patient satisfaction is a metric used to evaluate the quality of care provided by the health system (1) and the measure of how happy people are with their medical care, both within and outside of medical facilities. It provides information to healthcare practitioners about a range of aspects, such as the quality of their treatment and their degree of comprehension. It is possible to reflect provider conduct (politeness and respect), enhance healthcare services, and improve patient outcomes by taking the time to understand patients, caregivers, and families from their perspective (2).

Patient satisfaction, defined as the patient's subjective evaluation of healthcare services, is a crucial humanistic outcome (3). As the healthcare industry shifts toward patient-centered models, healthcare providers must fully understand patient satisfaction measures and how these affect their practices. Patient satisfaction serves as a vital criterion for evaluating the quality of healthcare services and can be understood as a subjective assessment of the service received against individual expectations (4).

Pharmaceutical service is a professional practice where the patient is the primary beneficiary (5). The main duty of a pharmacist is to provide drug therapy aimed at achieving specific therapeutic outcomes to improve patient health and quality of life (6).

Non-communicable diseases (NCDs), also known as chronic diseases, are long-lasting and typically progress slowly. They are not transmissible from person to person. The four primary categories of chronic diseases include chronic respiratory disorders (such as asthma and chronic obstructive pulmonary disease), cancer, diabetes, and cardiovascular diseases (including heart attacks, hypertension, and stroke (7). Chronic diseases are defined as those that have been, or are expected to be, present for three to six months or longer and are currently manageable rather than curable (8).

## **1.2. Statement of the Problem**

Patient dissatisfaction can lead to poor treatment compliance, can cause shift of patients to either costly private hospitals or cheap treatment by quacks resulting in poor quality of health care and result in poor health outcome (9). The lack of interaction between patients and professionals appears to be increasing, and patient satisfaction appears to be declining. It is one of the main reasons of the recently reported rise in occurrences of medical violence (3). Thus, the public health care system must seek to reorganize itself to ensure the effective delivery of quality services to all patient (1). Numerous factors influence patient satisfaction, including sociodemographic variables, patient expectations, health status, pharmacy location, waiting times, costs, and medication availability (10).

To enhance the overall quality of health care, hospital pharmacy services are one area that must be provided to the highest standards (11). The primary services provided by this unit are pharmaceutical dispensing and distribution, compounding, medication use review, adverse drug reaction monitoring, and drug information services, positive customer satisfaction may be a sign of a pharmacist performing well which is anticipated to improve service quality (12).

Performance evaluation or the patient's assessment of the pharmacist's execution of a range of patient care task can be used to construct patient satisfaction (13). Pharmacists can collaborate closely with other healthcare workers (HCWs), such as doctors, nurses, and medical assistants, in hospital to maximize patient-centered healthcare services thanks to a multidisciplinary approach (14).

Many studies have been conducted to assess patient satisfaction with medical services, but only few of them have specifically investigated pharmacy and even fewer have addressed different pharmacy setting (15). Although many efforts were made by the Ethiopian government to improve patient satisfaction in the hospital, still challenges (16) In addition to this, the health system in low-income countries, including Ethiopia, is often not ill-prepared to provide care for patients with chronic illnesses such as hypertension and diabetes (17). Instead, these systems are primarily focused on acute infectious and parasitic diseases. As a result, patients with chronic conditions often do not receive appropriate care and report higher dissatisfaction with pharmaceutical care rather than general patient population and general service (18).

Due to this, there is an information gap on the comprehensive understanding satisfaction with pharmaceutical service and associated factors among chronic non-communicable disease patient in hospital. Hence, determining the proportion of the satisfaction with pharmaceutical service and associated factors among chronic non communicable disease patient should to fill the information gap about the service acceptance and identify difficulties in satisfaction with pharmaceutical service delivery in the study area. Therefore, this study was conducted to determine the proportion of the satisfaction with pharmaceutical service and associated factors among chronic non-communicable disease patient at public hospital in East Shoa Zone, Oromia, Ethiopia

### **1.3. Significance of the study**

The findings of this study helps East Shoa Zonal Health Department and health care providers, as relevant information for the future planning and intervention of appropriate strategy to promote and maintain to patient satisfaction. In addition, it also helps program managers and other stakeholders by providing important insight on issues related to patient satisfaction. Lastly, the findings of this study would add to the body of knowledge on the patient satisfaction and useful to other researchers as baseline data for future researches.

## **2. LITERATURE REVIEW**

### **2.1. Magnitude of patient satisfaction with pharmaceutical service**

The worldwide studies on patient satisfaction with pharmaceutical service showed a different overall percentage ranges from 44% to 67.3%. For instance, 46.1% in eastern Ethiopia (12), 65% in Bangladesh (19), 44 % in Ukraine (20), 66.8% in Southeastern Nigeria (18), 56% in Romania (21), 32.7% in Zambia (22), 58.4% in Brazilian (23), 51% in Al emamain Al khadimain medical city (7), 61% in Pakistan (10), 52.6% in Mizan-Tepi University Teaching Hospital (MTUTH) (24), 40.5% in Dubti General Hospital (25), 47% in Yekatit 12 Hospital Medical College (26), 50% in Tikur Anbessa Specialized Hospital (TASH), 37.7% specialized governmental hospitals in Addis Ababa (27), 60.4% Red cross pharmacies in Addis Ababa (28).

### **2.2. Factors Associated with patient satisfaction toward pharmaceutical service**

Patient satisfaction is associated with a number of factors. Age, place of residence, degree of education, familiarity with pharmacy, waiting time, medicine dispensed and place of pharmacy (29).

#### **2.2.1. Socio-demographic Factors**

Different studies have discussed socio-demographic factors (sex, age, residence, religion, educational status, occupation, marital status, type of disease) that affect patient satisfaction. Study done in Eastern Ethiopia showed that Patients within the age range of 26–50 years were decreased likelihood of satisfaction compared with patients within the range of 18-25 years. However, patients living in rural and higher educational attainment were more satisfied than their counterpart, urban dwellers and patient who attend only secondary education respectively (12).

Additionally, as study conducted in the Gonder town the groups 50-60 years or older had higher mean satisfaction levels compared to those in the age group of 18 to 29 years of age. On the other hand on educational status uncovered that clients in the group with higher education had a statistically significant lower mean satisfaction level compared to illiterate clients. With regard to occupational status, farmers showed higher level of mean satisfaction compared to government employees and merchants. In the same group clients with no job were found to be more satisfied with the services they received compared to government employees (30).

### **2.2.2. Patient experiences with pharmacy service-related Factors**

Payment modality, self judged health status familiarity with institution are patient experience with pharmacy service related factors that have been association with patient satisfaction (31). Additionally according to study conducted in wollo, payment status; respondents who were insured/free from charge and patient who were covered their expenditure by the company were more satisfied compared to who covered medication costs from out-of- pocket expenditures, a participant who was visited the first time was more likely to be satisfied compared to a participant who visited more than one times, respectively (32). additionally as study done in polyclinic Hanoi Clients who used health insurance cards for their health care services were three times more satisfied than those who did not use them (29)

### **2.2.3. Provider related factors**

According to study done in Gurawa, Among highest satisfaction were 91% satisfaction on courtesy, respect and responsiveness of service providers followed by 88.6% satisfaction with confidentiality of information.on the other hand, In the information provided by the service providers on the service (where the location or rooms of services); 67.0% were satisfied (33).

### **2.2.4. Prescription filling related factors**

According to study conducted In Addis Ababa analysis payment type; availability of the drug on the day of pharmacy visit; patients' belief on cost of medication; pharmacy location, and organization of workflow in the pharmacy showed significant associated with satisfaction. After incorporating those associated variables in to multivariate logistic regression only availability of medication cost of medication and organization of work flow in the pharmacy had significant association with patient satisfaction. Patients who don't get their full prescribed medication were 60% less likely to be satisfied compared to those patients who have gotten all prescribed drugs. Moreover, patients who thought that price of prescribed medications were 61% times more likely to be satisfied compared to clients who thought that price of prescribed medications was not fair (28). similarly as study conducted in woldya, short waiting time to receive drugs from dispensary had significant association with patient satisfaction (34).

## 2.4. Conceptual Framework

A conceptual framework for factors associated with patient satisfaction including; socio-demographic factors, provider related factors, prescription filling related factors and patient experiences with pharmacy service factors, that have been used in other researches and adapted (27,28,34,35) They show how various variables interact with outcome variables.

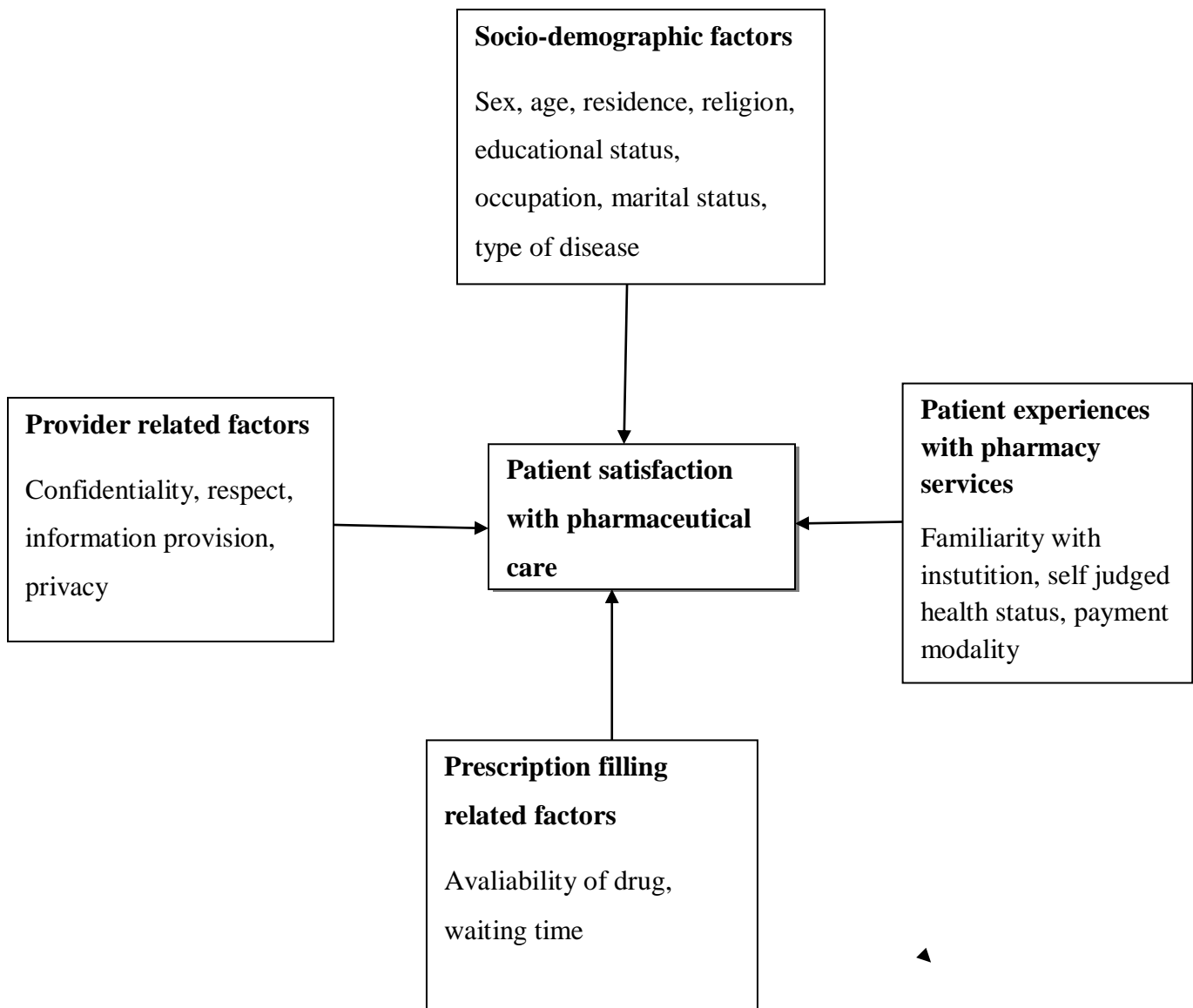


Figure 1: The conceptual frame work of satisfaction with pharmaceutical service and associated factors among chronic non communicable disease patient.



### **3. OBJECTIVES**

#### **3.1. General objective**

To assess level of satisfaction with pharmaceutical service and associated factor among chronic non-communicable diseases patients at public hospitals in East Shoa Zone, Oromia, Ethiopia 2024.

#### **3.2. Specific objectives**

- To determine satisfaction with pharmaceutical service among chronic non-communicable diseases patients at public hospitals in East Shoa Zone, Oromia, Ethiopia 2024.
- To identify factors associated with satisfaction with pharmaceutical service among chronic non-communicable diseases patients at public hospitals in East Shoa Zone, Oromia, Ethiopia, 2024

## **4. METHODS AND MATERIALS**

### **4.1. Study area and period**

The study was conducted in East Shoa Zone, Oromia Region, Ethiopia, from June 23 to July 23, 2024. Geographically, East shoa zone with the zonal capital city Adama town is located 100 km away from Addis Ababa. According to East Shoa health office reported 2024 the zone has a total population 2,753,878 among this 1,341,559 are men and 1,412,319 women. East shoa zona has 14 woreda and four urbans administrative centers.It has one referral, two general, three primary public hospitals.

### **4.2. Study design**

Facility based cross-sectional study design was conducted.

### **4.3. Population**

#### **4.3.1. Source population**

All chronic non-communicable disease patients who received pharmaceutical service at least once at public hospitals in East shoa zone were the source population for this study.

#### **4.3.2. Study population**

All chronic non-communicable disease patients who received pharmaceutical service at the time of data collection were used as study population.

#### **4.3.3. Study Unit**

Each sampled individual those are required to respond the information.

### **4.4. Inclusion and Exclusion Criteria**

#### **4.4.1. Inclusion Criteria**

All patients 18 years and older with at least one of the following disease(i.e congestive heart failure, diabetic and hypertension) those able to communicate with the interviewer and who received pharmaceutical service in the last six months in East shoa public hospitals were selected for this study. Congestive heart failure (CHF), diabetic and hypertension patients were selected

for this study as they were more prevalent than other chronic non-communicable diseases patients in East Shoa public hospitals

#### **4.4.2. Exclusion Criteria**

Those patients with CHF, diabetic and hypertension diseases who were seriously sick (unable to speak), mentally ill, Patients who failed to give consent and clients who visited the pharmacy on behalf of other patients were excluded from the study

#### **4.5. Sample Size Determination**

The sample size was determined by using a single population proportion formula with the assumptions of the proportion of overall satisfaction at Eastern Ethiopia was 46.1, 95% level of confidence, a margin of error (5%) and 10% non response rate (36).

**n**= sample size

**Z<sub>1- $\alpha$ /2</sub>**=significance (confidence level at 95%)

**d**= margin of error (5%)

**P**= Proportion of overall satisfaction 46.1

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

$$n = \frac{(1.96)^2 0.46 (1-0.46)}{0.05^2} = \underline{382}$$

$$n = \underline{382}$$

Therefore, the calculated sample size is 382. Since systematic sampling technique will be used to identify study subjects and 10% of NRR is used. Thus, the final sample size is **411**.

Similarly, sample size for second objective is also calculated using Epi info version 7.2.5.0 with the following assumptions in the table 1 below

Table 1 : Sample size determination for the second objectives of the study participants at public hospital in East Shoa Zone, Oromia, Ethiopia 2024

	Factors	Assumption								Sample size	References
							Proportion of outcome				
		Ratio	Power	Confidence level	Odds Ratio	non-responders	Non-exposed	Exposed			
1	Patients with in the age range on 26-35(satisfied as exposed, dissatisfied as non exposed)	1:1	80%	95%	0.5	10%	37.9	30.9	342	(32)	
2	Respondents who were insured/free from charge (satisfied as exposed, dissatisfied as non exposed)	1:1	80%	95%	3.6	10%	50.6	47.6	104		
3	Comfortability of private (satisfied as exposed, dissatisfied as non exposed counseling area)	1:1	80%	95%	0.5	10%	35.8	26.8	356		

4	All medication available (satisfied as exposed, dissatisfied as non exposed)	1:1	80%	95%	1	10%	45.9	26.1	202	(28)
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The final calculated sample size for the first objective is 411 and for the second objective, it is 356. The calculated sample size for the first objective is greater than the calculated sample size for the second objective. Therefore, the final sample size for this study is 411 (**n = 411**).

#### **4.6. Sampling Procedures and technique**

All six public hospitals in the East Shoa Zone—Meki Primary Hospital, Bishoftu General Hospital, Wolanchit Primary Hospital, Mojo Primary Hospital, Adama Referral Hospital, and Batu General Hospital—were included, as they have clinics for chronic care. Total sample sizes of 411 were allocated to each hospital proportionally, based on the average monthly number of chronic non-communicable disease patients visiting each facility.

Study participants were selected using systematic random sampling. The sampling interval (k) was calculated by dividing the average monthly client flow of each facility by the total sample size, resulting in a value of 7. This value of k was consistent across all hospitals. Every seventh patient visiting the chronic out patient department (OPD) was selected until the required sample size was achieved. A lottery method was used to choose the starting point, and subsequent participants were determined based on the sampling interval.

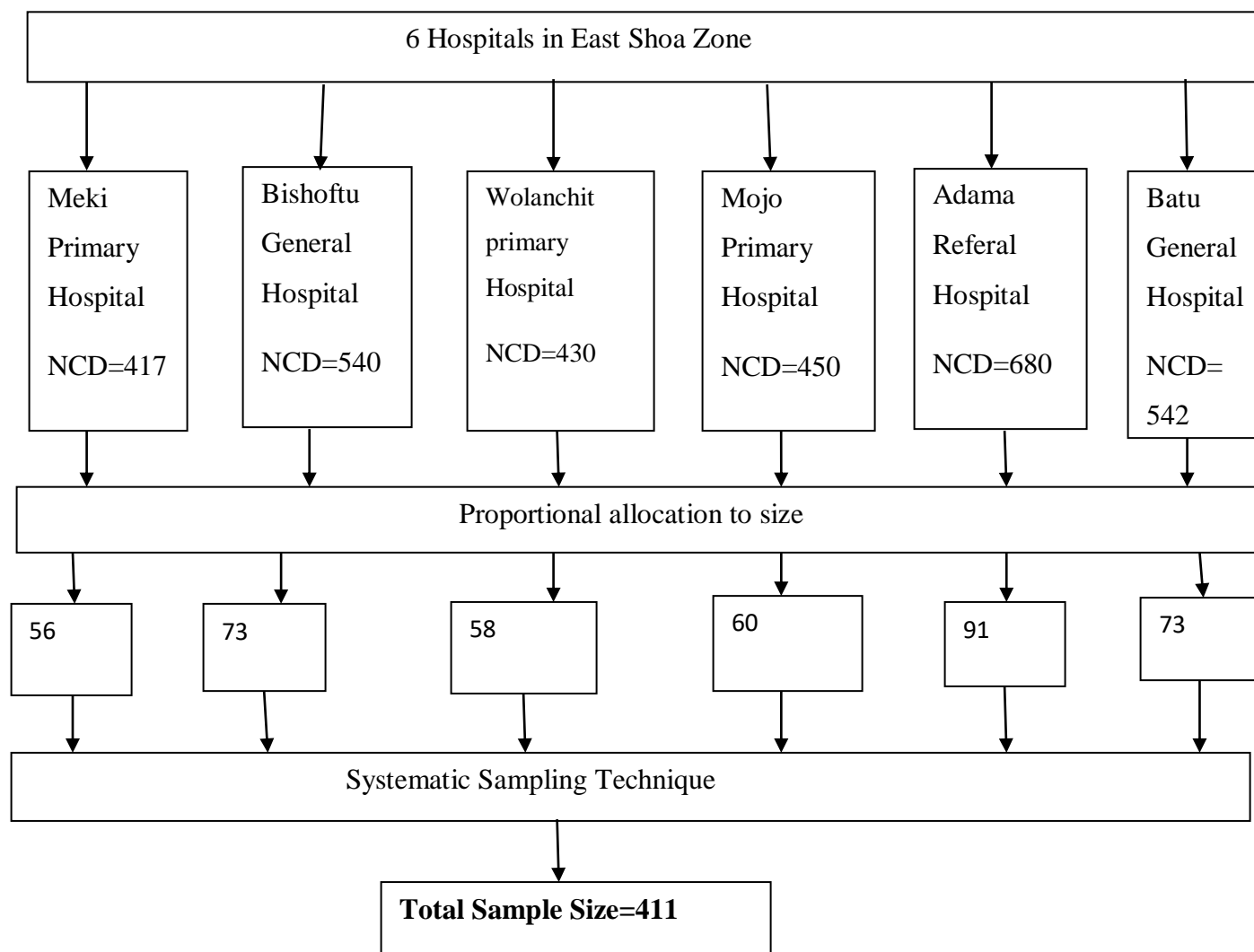


Figure 2: Schematic presentation of sampling procedure on satisfaction with pharmaceutical service and associated factors among chronic non communicable disease patients at public Hospital in East Shao Zone, Oromia, Ethiopia 2024

#### 4.7. Data collection procedure (tools, technique, and personnel)

Data were collected using a face-to-face interviewer-administered, structured questionnaire prepared by reviewing different previous literatures (11,14,37,38). The questionnaire was designed to enable the acquisition of information concerning socio-demographic factors, level of patient satisfaction in pharmaceutical service, patient experiences with pharmacy service-related factors, provider related factors and prescription filling related factors. Four BSC nurses who were able to communicate in Afaan Oromoo were recruited from health centers for data collection and one BSC nurse was also recruited for supervision. Then a face-to-face interview was conducted with patient to fill out the questionnaire.

## **4.8. Study variables**

### **4.8.1. Dependent variable**

Patient satisfaction toward pharmaceutical service

### **4.8.2. Independent variables**

**Socio-demographic factors:** - Sex, age, marital status, religion, residence, educational status, occupation, type of disease

**Provider related factors:** -Confidentiality, respect, information provision, privacy

**Patient experiences with pharmacy service-related factors:** - Familiarity with institution, payment modality, self-judged health status,

**Prescription filling related factors:** - Availability of drug, waiting time

## **4.9. Operational definitions**

**Satisfaction scale:** section contains 15 items ; a five point liker scale were utilized for measuring scores, which was represented as "poor," "fair," "good," "very good," and "excellent," and correspondingly assigned numerical values of 1, 2, 3, 4, and 5. The scores were coded during the data entry phase as (1= poor, 2= fair, 3= good, 4= Very good and 5= excellent. Then, the composite score for each study participant were computed which could range from 15 to 75. The overall satisfaction score was calculated by adding all the study participants' satisfaction scores, and the mean score was computed by dividing the overall satisfaction score by the number of study participants (411) (31).

**Satisfied:** In this study patients who have at and above the mean score satisfaction are considered as satisfied patients (15).

**Dissatisfied:** refers to patients who have below the mean score satisfaction

**Pharmacy professionals:** refer to Pharmacists (health care professionals) worked in the hospital pharmacies under study.

**Pharmaceutical service :** refers to a professional patient care practice, which, when provided as an organized service, is experienced, documented, evaluated, and paid for as a medication management service (39).

**Chronic non-communicable diseases patients:** refers to CHF, diabetic and hypertension patients who received pharmaceutical service in the hospital under study.

**Waiting time:** The time interval between arrivals at the facility to onset of service(33).

**Service providers:** All pharmacy workers in the hospitals including health workers (health professionals) and supportive staffs (non health professionals)

#### **4.10. Data quality assurance**

To assure the quality of the data, the English version of the questionnaire was translated from English to Afan Oromo to check its consistency. The questionnaire was pre-tested on 5% (20) of the sample size in Asella referral hospital, which was not included in the study, to correct the error, estimate the time needed, and make necessary modifications to increase the tool's quality prior to the actual data collection activities.

Moreover, cronbach alpha was computed to measure the reliability (internal consistency) between items in the scale for measuring Patient satisfaction toward pharmaceutical service among chronic non-communicable diseases and was found to be 0.92. Since the value of Cronbach alpha is greater than 0.7; the reliability of tools were good.

Lastly, one day training was given for data collectors and supervisors on the objective of the study, confidentiality of the study, data collection tools, and overall data collection procedures. During data collection, data collectors ensured questionnaires were complete and took necessary measures to address any missing information. The supervisors conducted on-site supervision during the period of data collection and checked the completeness of the questionnaires on a daily basis. The principal investigator controlled the overall data collection process. Lastly, the data were checked during coding, data entry and were cross-checked before analysis.

#### **4.11. Data processing and analysis**

The collected quantitative data were checked for completeness and coded before data entry, then entered into EpiData version 4.6.0.6 by the principal investigator. For further analysis, the data were exported to SPSS version 25. Descriptive statistics such as frequencies, percentages, and mean with standard deviation (SD) was computed. Tables and pie charts were used to present results.



A binary logistic regression analysis was performed to determine the association between the patient satisfaction toward pharmaceutical care among chronic non-communicable diseases and independent variables. A multi-collinearity test was done to check the correlation between independent variables using a cut point of variance of inflation factors (VIF) less than 10 ( the maximum VIF for the variables included in this study was 1.52), showing no multi-collinearity between independent variables. All independent variables with a *P* value of less than 0.25 in the binary logistic regression analysis was selected for multivariable logistic regression model using a backward stepwise (likelihood ratio) model building method.

Additional multivariable logistic regression analysis was performed to control the possible effect of confounders and identify the independent variables that show a significant association with the outcome variable. The model's fitness was checked using the Hosmer-Lemeshow goodness of fit test with a cut-off *p* value > 0.05. The model's adequacy to predict variables was good, as the test value of 0.743 is greater than the cut-off point. At the end, variables with a *p* value less than 0.05 and a 95% confidence interval (CI) in the multivariable logistic regression model were considered to have a statistically significant association with the outcome variable. Finally, to declare statistically significant association between Patient satisfaction toward pharmaceutical care among chronic non-communicable diseases and each independent variable, AOR (Adjusted Odd Ratio) with 95% CI, and a *p* value less than 0.05 were reported.

#### **4.12. Ethical consideration**

Ethical clearance for the start of the study was obtained from Salale University Institutional Review Board. Then the letter was written to the East Shoa zone health department for data collection. All participants were well informed about the purpose, risks, benefits, confidentiality, and voluntary participation, freedom to withdraw before and during procedure of data collection. Informed written consent was obtained from each participant, confirming their voluntary participation. After that, their willingness to participate was assessed using formal communication before asking questions based on the preparation checklist. The names of respondents were not mentioned in the data collection tool. The collected data were only accessible to those involved in this investigation, who enter all the data on the computer and save the electronic spreadsheet with a password.

#### **4.13. Results Dissemination plan**

After completion of the study, the thesis reports will be submitted to Salable University, College of Health Science and Department of Public Health. In addition, the thesis results will be defended to Salable University, College of Health Science and examiner. Besides, a summarized technical report will be disseminated to East Shoa public hospital and all stakeholders. Furthermore, the manuscripts will be prepared, efforts will be made to present the results on scientific conferences, and peer-reviewed journal publications will be considered for scientific community.

## 5. RESULTS

### 5.1. Socio-demographic characteristics of study participants

A total of 399 chronic non-communicable disease patients participated, resulting in a response rate of 98.5%. Among the study participants, 209 (52.4%) were female, and 138 (34.6%) were aged over 59 years. Additionally, 132 (33.1%) identified as Orthodox by religion. Regarding residence, 218 (54.6%) were from urban areas. Concerning educational level, 101 (25.3%) were unable to read and write. The majority of respondents, 118 (29.6%), were housewives. In terms of marital status, 273 (68.4%) were married. The most common health conditions among the participants included hypertension (138, 34.8%), congestive heart failure (85, 21.3%), and diabetes mellitus (175, 43.9%).

Table 2: Socio-demographic characteristics of study participants in public hospital in East shoa Zone, Oromia Regional, Ethiopia, 2024

Variable	Category	Frequency	Percent
Sex	Female	209	52.4
	Male	190	47.6
Agecategory	18-28	77	19.3
	29-38	66	16.5
	39-48	60	15.0
	49-58	58	14.5
	>=59	138	34.6
Religion	Protestant	93	23.3
	Orthodox	132	33.1
	Muslim	101	25.3
	Wakefata	68	17.0
	Others	5	1.3
Residence	Urban	218	54.6
	Rural	181	45.4
Educational level	Can't read and write	101	25.3
	Can read and write	49	12.3
	Elementary	83	20.8

Occupational status	Secondary	68	17.0
	College and Above	98	24.6
	House wife	118	29.6
	Governement employee	72	18.0
	Merchant	38	9.5
	Farmer	112	28.1
	Daily laborer	22	5.5
	Others	37	9.3
Marital status	Single	63	15.8
	Married	273	68.4
	Divorced	34	8.5
	Widowed	29	7.3
Type of disease	congestive heart failure	85	21.3
	Diabetes mellitus	175	43.9
	Hypertension	139	34.8

## 5.2. Patient satisfaction toward pharmaceutical service

Based on cut of point set in the operational definition among questions prepared to assess patient satisfaction, 48.9% of study participants were satisfied with a confidence interval (95% CI: 44%–54%). The mean satisfaction score for the respondents was 3 with (SD=  $\pm$ .55). On the other hand, 51.1% of study participants had dissatisfaction (Figure 3). Regarding pharmacist-patient relationship, 6(1.5%) were poor, 44(11.0%) were fair, 200(50.1%) were good, 104(26.1%) were very good and 45(11.3%) were excellent. On pharmacist's professionalism, 1(0.3%) were poor, 58(14.5%) were fair, 245(61.4%) were good, 79(19.8%) were very good 16(4.0%) had excellent feeling (Table 3).

Table 3: percentage distribution of study participants among each likert item of patient satisfacition in East Shoa Zone public Hosptals, Ethiopia, 2024

Item	Poor	Fair	Good	Very good	Excellent
Pharmacist-patient	6(1.5%)	44(11.0%)	200(50.1%)	104(26.1%)	45(11.3%)

relationship					
Professionalism	1(0.3%)	58(14.5%)	245(61.4%)	79(19.8%)	16(4.0%)
Availability of Pharmacist's	2(0.5%)	140(35.1%)	200(50.1%)	56(14.0%)	1(0.3%)
The time of pharmacist's spend with patients	9(2.3%)	170(42.6%)	194(48.6%)	24(6.0%)	2(0.3%)
Pharmacist's interest in patient health	8(2.0%)	25(6.3%)	258(64.7%)	69(17.3%)	39(9.8)
Pharmacist's advise	111(27.8%)	138(34.6%)	137(34.3%)	11(2.8%)	2(0.5%)
Pharmacist's explains what medication do	102(25.6%)	144(36.1%)	134(33.6%)	16(4.0%)	3(0.8%)
Pharmacist's instructs how to take medication	7(1.8%)	19(4.8%)	250(62.7%)	71(17.8%)	52(13.0%)
Side effects	80(20.1%)	107(26.8%)	182(45.6%)	29(7.3%)	1(0.3%)
Willing to answer Question	12(3.0%)	119(29.8%)	192(48.1%)	62(15.5%)	14(3.5%)
Pharmacist's work together with doctor	220(55.1%)	100(25.1%)	63(15.8%)	13(3.3%)	3(0.8%)
Pharmacist's effort	11(2.8%)	49(12.3%)	270(67.7%)	52(13.0%)	17(4.3%)

to improve health

Prescription drug service	4(1.0%)	91(22.8%)	241(60.4%)	58(14.5%)	5(1.3%)
Quality of medicine	6(1.5%)	25(6.3%)	250(62.7%)	106(26.6%)	12(3.0%)
Pharmacy service	12(3.0%)	93(23.3%)	210(52.6%)	77(19.3%)	5(1.3%)
Overall					

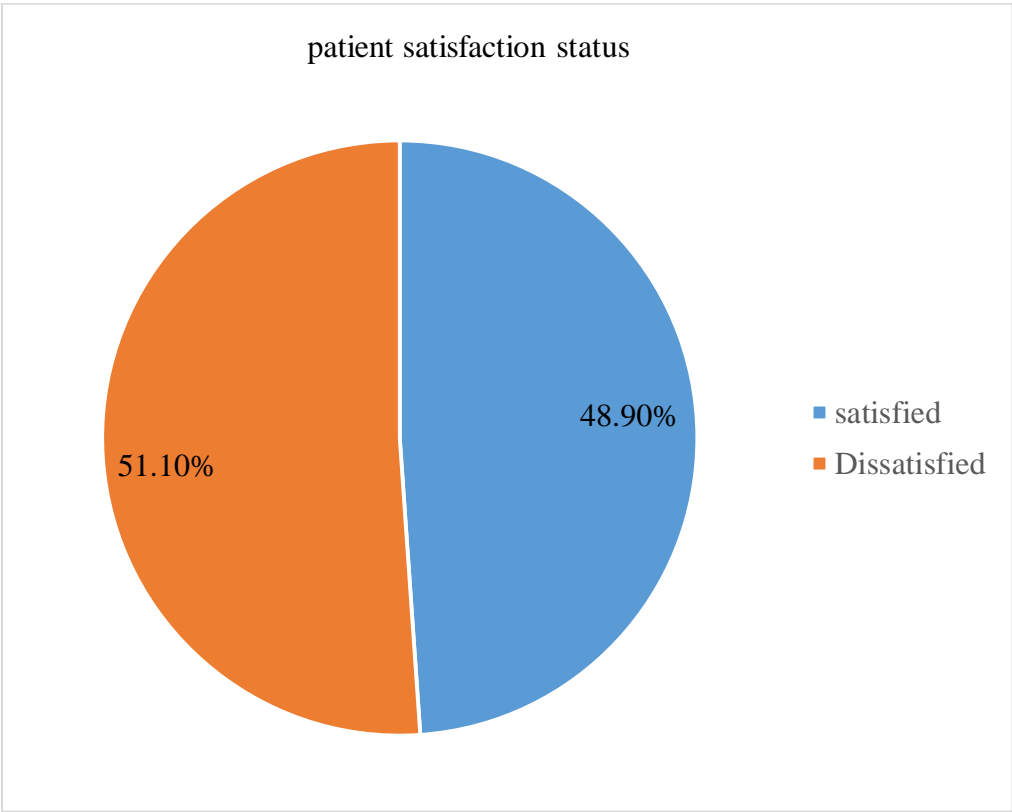


Figure 3: proportion of patient satisfaction with pharmaceutical service among chronic non communicable disease `patients at public hospitals in East Shoa zone Oromia, Ethiopia, 2024

### 5.3. Patient experiences with pharmacy service Characteristics of study participants

A considerable portion of participants, 149 (37.3%), visited hospitals four times. Additionally, a significant 228 (57.1%) of participants paid out-of-pocket for the medications dispensed. Patients were also asked about their views on actions needed to improve the quality of pharmacy services. The most frequently mentioned need, by nearly half of the participants (182, or 45.6%), was to increase the number of staff. Other commonly suggested measures included increasing space in the waiting area, improving medication availability, reducing the number of steps needed to receive service, and decreasing waiting times.

Table 4: Patient experiences with pharmacy service characteristics of study participants at public hospital in east shoa Zone, Oromia, Ethiopia, 2024

Variable	Category	Frequency	Percent
Frequency of visit	one times	10	2.5
	two times	35	8.8
	three times	102	25.6
	four times	149	37.3
	five times	64	16.0
	more than five times	39	9.8
Self-judged health status	Severely sick	46	11.5
	Sick	353	88.5
Status of payment	by company	16	4.0
	Free	4	1.0
	out of pocket	228	57.1
	Paid by insurance	151	37.8
Requirement to improve the service	Improvemedication	77	19.3
	Availability		
	increase number of staff	182	45.6
	increase waiting	39	9.8



area space		
reduce waiting time	57	14.3
reduce number of steps needed to get the service	44	11.0

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#### 5.4. Provider related factors

Out of the 399 clients, 113 (28.3%) could not obtain any information about the locations of service rooms, such as the registration room and dispensary room, from the service providers. Additionally, 167 (41.9%) of respondents indicated that their privacy was not properly maintained due to the absence of screens (curtains) or private rooms. The majority, 220 (55.1%), of respondents were neutral regarding the courtesy, responsiveness, and respect of the pharmacy staff, while 153 (38.3%) expressed satisfaction with the expectation of confidentiality (Table 5).

Table 5: Frequency distribution of provider related characteristics of study participants at public hospital in east shoa Zone, Oromia, Ethiopia, 2024

Variable	Category	Frequency	Percent
Information provision	Yes	286	71.7
	No	113	28.3
Satisfaction with information provision	Unsatisfied	37	9.3
	Neutral	154	38.6
	Satisfied	82	20.6
	Very satisfied	13	3.3
Understandable word	Yes	28	7.0
	No	371	93.0
Respect and responsiveness	Very unsatisfied	1	.3
	Unsatisfied	82	20.6
	Neutral	220	55.1

	Satisfied	78	19.5
	Very satisfied	18	4.5
Privacy	Yes	232	58.1
	No	167	41.9
Satisfaction with privacy kept	Unsatisfied	24	5.8
	Neutral	127	31.8
	Satisfied	73	18.3
	Very satisfied	8	2.0
Speaking out loud,	Yes	73	18.3
	No	326	81.7
Confidentiality	Yes	375	94.0
	No	24	6.0
Satisfaction with confidentiality	Very unsatisfied	1	
	Unsatisfied	17	4.3
	Neutral	159	39.9
	Satisfied	153	38.3
	Very satisfied	45	11.3

### 5.5. Prescription filling related characteristics of study participants

Out of the 399 study subjects, 263 (65.9%) received some of the ordered medications, 129 (32.3%) received all of the ordered medications, and 7 (1.8%) did not receive any of the ordered drugs from the hospital pharmacy. Regarding waiting time, 14 (3.5%) of the clients waited less than 10 minutes, while 164 (41.1%) stayed between 11 and 30 minutes. Additionally, 210 (52.6%) waited between half an hour and 1.5 hours, and the remaining 4 (1.0%) waited more than two hours (Table 6).

Table 6: Prescription filling related characteristics of study participants at public hospital in East shoa Zone, Oromia, Ethiopia, 2024

Variable	Category	Frequency	Percent
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Drug and supplies ordered	Yes	399	100.0
Availability of drug	yes all	129	32.3
	some but not all	263	65.9
	none of them	7	1.8
Service waiting time	<= 10 minutes	14	3.5
	11 – 30 minutes	164	41.1
	>½ hour – 1&1/2 hour	210	52.6
	>1 ½ – 2 & ½ hour	4	1.0
Satisfaction with availability of drug	Very unsatisfied	3	.8
	Unsatisfied	62	15.5
	Neutral	166	41.6
	Satisfied	107	26.8
	Very satisfied	54	13.5

### **5.6. Factors associated with Patient satisfaction toward pharmaceutical service among chronic non-communicable diseases**

In the analysis of non-communicable diseases, bivariable logistic regression revealed that variables such as age category, residence, educational level, payment status for pharmacy services, communication with providers, patient confidentiality, speaking out loud, and the availability of ordered drugs/supplies in the hospital pharmacy were significantly associated with the dependent variable (Table 7).

However, in the multivariable logistic regression analysis, factors such as residence, educational level, payment status for pharmacy services, and availability of ordered drugs/supplies in the hospital pharmacy remained significantly associated with patient satisfaction regarding pharmaceutical service. Patients living in rural areas were 1.96 times more likely to be satisfied (AOR = 1.96, 95% CI: 1.12–3.44) compared to their urban counterparts.

Additionally, patients who were unable to read and write were 4 times more likely to report satisfaction (AOR = 4.0, 95% CI: 1.44–11.05), while those who could read and write were 2.92 times more likely to be satisfied (AOR = 2.92, 95% CI: 1.03–7.74). Patients with an elementary

education level were 2.27 times more likely to be satisfied (AOR = 2.27, 95% CI: 0.96–5.35), and patients who completed secondary education were 1.87 times more likely to be satisfied (AOR = 1.87, 95% CI: 0.76–4.58) compared to those with a college education or higher. Regarding payment status, patients who paid by insurance were 2.32 times more likely to be satisfied (AOR = 2.32, 95% CI: 1.28–4.20), and those whose expenses were covered by their company were 7.35 times more likely to be satisfied (AOR = 7.35, 95% CI: 1.79–3.13) compared to those who paid out of pocket.

Finally, patients who received some prescribed medications from the hospital pharmacy were 0.39 times less likely to be satisfied (AOR = 0.39, 95% CI: 0.21–.70), compared to patients who received all prescribed medications (Table 7).

Table 7: Bivariable and multivariable logistic regression analysis for factors associated of patient's satisfaction with pharmaceutical service among chronic non-communicable diseases patients at public hospitals in East Shoa Zone, Oromia, Ethiopia 2024.

Variables	category	Satisfaction		COR ( 95%CI)	AOR ( 95% CI)
		Satisfied=1	Dissatisfied=0		
Agecategory	18-28	20(26)	57(74)	1	1
	29-38	21(31.8)	45(68.2)	1.33 (.64,2.75)	.79(.34,1.94)
	39-48	27(45)	33(55)	2.33 (1.13,4.79)	1.41(.58,3.68)
	49-58	32(55.2)	26(44.8)	3.5 (1.69,7.25)	1.8(.69,4.65)
	>=59	95(68.8)	43(31.2)	6.29 (3.37,11.75)	2.46(.96,6.314)
Residence	Urban	81(37.2)	137(62.8)	1	1
	Rural	114(63)	67(37)	2.87(1.91,4.32)	1.96(1.12,3.44)*
Educational level	Can't read and write	79(78.2)	22(21.8)	13.17 (6.7,25.86)	4.0(1.44,11.05)*
	Can read and write	30(61.2)	19(38.8)	5.789 (2.72,11.26)	2.92(1.1,7.74)*
	Elementary	41(49.4)	42(50.6)	3.579 (1.87,6.83)	2.27(.96,5.38)
	Secondary	24(35.3)	44(64.7)	2.0(1,3.99)	1.87(.76,4.58)

	College and Above	21(21.4)	77(78.6)	1	1
Payment status	Out of pocket	76(33.3)	152(66.7)	1	1
	Free	2(50)	29(50)	2.0(.27,14.47)	.46(.08,5.16)
	Company	10(62.5)	6(37.5)	3.33(1.16,9.51)	7.35(1.796,3.134)*
	Insurance	107(70.8)	44(29.1)	4.84(3.11,7.59)	2.32(1.28,4.2)*
Understandable word	Yes	5(17.9)	23(82.1)	1	1
	No	190(51.1)	181(48.9)	4.82(1.79,12.97)	2.4(.70,8.19)
Speaking out loud,	Yes	24(32.9)	49(67.1)	1	1
	No	171(52.5)	155(47.5)	2.25(1.32,3.84)	1.15(.54,2.42)
Confidentiality	Yes	192(51.2)	183(48.8)	7.34(2.15,25.04)	2.84(.16,49.88)
	No	3(12.5)	21(87.5)	1	1
Availability of drugs	Yes all	92(71.3)	37(28.7)	1	1
	Some but not all	102(38.8)	161(61.2)	.25(.16, .40)	.39(.21, .70)*
	None of them	1(14.3)	6(85.7)	.67(.08, .57)	.16(.03, 2.11)

**Note:** COR: crude odds ratio, AOR: adjusted odds ratio,\*the values show significant association ( $p < 0.05$ ), CI: Confidence interval and 1 = reference, the  $p$ -value of the fitness of the model (Hosmer and Lemshow) was 0.74

## 6. DISCUSSION

This study aimed to assess chronic non-communicable disease patients' satisfaction with hospital pharmacy services at public hospitals in the East Shoa Zone. In this study, the overall satisfaction with pharmacy services was found to be 48.9%. The mean satisfaction score, calculated on a scale of five, was 3. Factors such as place of residence, education level, payment status, and medication availability were identified as independent variables significantly associated with patient satisfaction with pharmacy services.

In this study, patients reported low satisfaction, only less than half of the respondents reported satisfaction with the service they provided with (48.9%). This study is in agreement with studies conducted elsewhere in Ethiopia: Eastern Ethiopia (46.19%) (12), Mizan Tepi (47.4%) (24) and Gondar (48.1%) (30). Similarities in population age groups, sampling techniques, and outcome measurement tools may explain these consistent findings. However, this result is considerably lower than reports from Brazil (58.4%) (40) and Pakistan (61%) (10). The discrepancy might be due to differences in study setting (area) such as South Korea and Brazilian the superior quality service is expected and might have contributed for the improved patient satisfaction. This study finding is higher than studies conducted in the Zambia (32.7%) (41) and Dubti general hospital (40.5%) (25). Differences in study period, socioeconomic and demographic characteristics of study participants and geographical area coverage could be the possible explanations for this disparity.

In this study, patients living in rural area were 1.96 times more satisfied than their counterpart, urban dwellers patients. This finding is similar to studies conducted in the Eastern Ethiopia (10). But this finding is inconsistent with the study conducted in North shoa (2) Debra tabor (42) and Tikur Ambesa (43). This could be due to different reasons. First, in our setting, significant portion of patients were served from rural area while in other studies either there were no patients from rural area or the place of residence was not assessed and hence not reported. Generally speaking, the high satisfaction seen among rural dwellers could be due to lower expectation toward the service.

Pertaining to the educational status; patients with little or no formal education higher satisfaction compared with patients who had a college and above. These findings are supported by studies conducted in Mizan tape(24) and Gurawa(33). This might be due to lower awareness about the service delivered in pharmacy from patients with less education compared with their counterpart.

Concerning payment status, patients who paid by insurance and company were higher satisfaction compared with patients who covered medication costs from out-of-pocket expenditures. This study is consistent with the study conducted in Wollo, North-East Ethiopia(32), Wolaita Sodo University Teaching Hospital, Southern Ethiopia(44) and Hiwot fana specialized Hospital(12). But this finding is inconsistent with the study conducted in public hospital at Addis Ababa(15). Possible reasons for the inconsistency may be the study period and socioeconomic.

Concerning prescription filling factors; Medication availability was another significant factor that showed association in this current study finding. Similarly, different studies in Ethiopia at different times found a significant association between medication availability and satisfaction. such as Wollo, North-East Ethiopia(32), Eastern Ethiopia(12) and gonder(30). Patients who did not access even a single medication from the hospital pharmacy were 84% less likely to be satisfied than those who did access medication from the hospital pharmacy. In contrast to this finding, the study finding in South Korea(3) reported no significant association found with medication availability and satisfaction. Towards this finding, variation may be due to the existence of equipped pharmacy service (supply and medicine) and different patient demography. As a result, the current finding suggests medication availability is a core service that patients interestingly find to be satisfied more.

## **7. STRENGTH AND LIMITATION OF THE STUDY**

### **7.1 Strength of the Study**

- All hospitals under East shoa zone which provides pharmaceutical service for chronic non-communicable patients were included in the study
- High response rate which might reduce random error
- All interviews for this study were conducted at chronic clinics which minimizes social desirability bias.
- Multivariable logistic regression analysis was performed to control the possible effect of confounders

### **7.2. Limitation of the Study**

- Due to time and other resources constraint the minimum sample size was used for this study.
- This study shows only the views of agreed and selected patients from selected pharmacies.
- The responses might also be subjected to potential bias from the respondents.



## **8. CONCLUSIONS**

The level of satisfaction for patients with chronic diseases in the study was found to be low as compared to the national studies. Residence, level of education, status payment for the pharmacy service and availability of ordered drugs/supplies in hospital pharmacy showed statistically significant association with patient satisfaction toward pharmaceutical service among chronic non-communicable diseases.

## **9. RECOMMENDATION**

Based on the findings of the study, the following points which may help in improving patients' satisfaction in pharmaceutical service, forwarded to concerned bodies:-

### **For hospitals**

- Additional training on chronic non-communicable diseases should be given to staff working in the hospital pharmacies.
- Ensure availability and affordability of medicines in the hospital pharmacies.

### **For zonal health department**

- Zonal health department should encourage community to be the member of community based health insurance

### **For Researchers**

- Further studies should be conducted to examine service related factors that affect patient satisfaction

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## **ANNEXES**

### **Annex 1: participant information sheet, informed consent form and questionnaire (English version)**

#### **I. Informed Consent**

**Title of the study:** Satisfaction with pharmaceutical service and associated factor among chronic non communicable diseases patients at public hospital in East Shoa Zone, Oromia, Ethiopia 2024

##### **Introduction**

My name is ..... I am here on behalf of Mayrama Abe a student of Salale University College of health Science. He is conducting research on satisfaction with pharmaceutical service and associated factors among chronic non communicable diseases patients in East Shoa public hospitals, for the partial fulfillment of master's in General public health in Salale university department of public health. Before you decide whether or not to participate in this study, I would like to explain to you the purpose of the study, procedure, any risks, benefits and what is expected of you. Your participation in this study is entirely of your own free will. You are under no obligation to participate; you may choose to participate or not to participate. If you decide not to participate, no freedoms will be taken away from you. If you agree to participate, you will be asked to sign in the space provided below.

##### **Purpose of the study**

The purpose of this study is to assess satisfaction with pharmaceutical service and associated factors among chronic non communicable diseases patients in your hospital.

##### **Procedure**

After you have signed the informed consent form, and have a chance to ask questions, you will be requested to answer questions asked by the interviewers.

##### **Risks**

No risks are involved apart from the use of your time for answering questions.

##### **Benefits**



Agreement to participate will not result any immediate benefits to you. But by taking part in this study, you will be able to provide true information that will help relevant health care providers working in different health facility to give factor-oriented health education, authorities and policy makers to come up with strategies and policies that will help to increase client satisfaction and this will in turn benefit client and the community at large.

### **Confidentiality**

The information that you provide will be confidential to the data collectors only and it will be used for the purpose of this study only.

### **Informed consent form**

I have been well aware of that this research undertaking is for a partial fulfillment of MPH degree which is fully supported and coordinated by the Salale University, College of Health Sciences, Department of Public health and the designate principal investigator is Mayrama Abe. I have been fully informed in the language I understand about the purpose of this research. I have been informed that all the information I shall provide to the interviewer will be kept confidential. I understood that the research has no any risk and no composition. I have assured that the right to ask information that is not clear about the research before and or during the research work and also taking part in this study is as purely voluntary. I have read this form/ it has been read for me in the language I know and understood the condition stated above.

So, I am agreed to take part/ participate in this study.

☐ Yes                      ☐ No

If yes, Sign\_\_\_\_\_ Time started \_\_\_\_\_ Time finished\_\_\_\_\_

### **Person to contact for problems or questions/at any time for further explanation.**

Name of principal investigator: Mayrama Abe

Cell phone No: +251915988370

Email: [Maraabe73@gmail.com](mailto:Maraabe73@gmail.com)

**I. Socio demographic Characteristics of study participants at public hospitals in East Shoa Zone, Oromia Regional State, Ethiopia, 2024**

Code	Variable/questions	Possible response	Remark
101	Sex	1.female 2.male	
102	Age	_____	
103	What is your Religion?	1.Protestant 2.Orthodox 3.Muslim 4.Waqefata 5.Others (Specify_____)	
104	Residence	1.Urban 2.Rural	
105	What is your educational level	1.Can't read and write 2.Can read and write 3.Elementary 4.Secondary 5.College and Above	
106	What is your occupational status?	1. House wife 2.Government employee 3. Merchant 4.Farmer 5.Daily laborer 6. Others (Specify_____)	
107	Marital status	1.single 2.married 3.divorced 4.widowed	
108	Type of disease	1.Cardiovascular	

		2.Diabetes mellitus 3.Hypertension	
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## II. Questioner to assess patient satisfaction in pharmaceutical care (English version)

Code	Items	Poor	Fair	Good	Very good	Excellent
201	The pharmacist's professional relationship with you					
202	The professionalism of the pharmacy staff					
103	The availability of the pharmacist to answer your questions					
204	The amount of time the pharmacist offers to spend with you					
205	The Pharmacist's interest in your health					
206	The pharmacist's ability to advise you about problems that you might have with your medications					
207	How well the pharmacist explains what your medications do					
208	How well the pharmacist instructs you about how to take your medications					
209	How well the pharmacist explains possible side effects					
210	How well the pharmacist answers your questions					

211	The pharmacist's effort to work together with your doctor to make sure your medications are the best for you					
212	The pharmacist's efforts to help you improve your health and stay healthy					
213	The promptness of the prescription drug service					
214	Quality of medicines dispensed to you					
215	Your pharmacy services overall					

### III. Patient experiences with pharmacy service-related questions

Code	Variable/questions	Possible response	Remark
301	Frequency of visit in the last six months	1. one times 2. two times 3. three times 4. four times 5. five times 6. more than five times	
302	How do you evaluate your health status?	1. Severely sick 2. Sick	
303	status of Payment for pharmacy service	1. out of pocket 2. free 3. by company 4. Paid by insurance	
304	what do you think should be improved in this pharmacy	1. improve medication availability 2. increase number of staff	

		3. increase waiting area space 4. reduce waiting time 5. reduce number of steps needed to get the service Other _____	
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#### IV. Provider related questions

Code	Variable/questions	Possible response	Remark
401	Have you got any information about the service provided? (Where the service rooms are? E.g., registration, dispensary and so on)	1.yes 2.no	
402	How much are you satisfied with the information provided about the service?	1. Very unsatisfied 2.unsatisfied 3. Neutral 4. Satisfied 5. Very satisfied	
403	Did the providers discuss with you anything with the word you cannot understand?	1.yes 2.no	
404	How satisfied are you with the Courtesy, responsiveness and respect of the pharmacy staff?	1. Very unsatisfied 2.unsatisfied 3. Neutral 4. Satisfied 5. Very satisfied	
405	Was there a private room, Curtain or Screen or any means in the area that can keep your privacy?	1.yes 2.no	
406	How were you satisfied with the way your privacy kept	1. Very unsatisfied 2.unsatisfied 3. Neutral	

		4. Satisfied 5. Very satisfied	
407	Was the provider speaking to you out loud, so that others can hear?	1.yes 2.no	
408	Was the confidentiality of your personal information protected in consultation with the pharmacist? what do you think should be improved in this pharmacy	1.yes 2.no	
409	How satisfied you are with the expectation of your confidentiality	1. Very unsatisfied 2.unsatisfied 3. Neutral 4. Satisfied 5. Very satisfied	

#### V. Prescription filling related questions

Code	Variable/questions	Possible response	Remark
501	Were drugs and supplies ordered to you?	1. yes 2. no	
502	If yes, were you able to get them in the hospital pharmacy?	1.yes all 2.some but not all 3.none of them	
503	How long did you wait to collect your medication?	1. <= 10 minutes 2. 11 – 30 minutes 3. >½ hour – 1&1/2 hour	

		4. >1 ½ – 2 & ½ hour 5. >2 & ½ - 3 & ½ hour 6. >3 & ½ hours	
504	How satisfied are you with the availability of drugs and supplies?	1. Very unsatisfied 2. unsatisfied 3. Neutral 4. Satisfied 5. Very satisfied	

**Annex 2: waraqaa odeeffannoo hirmaattotaa, unka hayyama odeeffannoo irratti hundaa’e fi gaaffilee (participant information sheet, informed consent form and questionnaireAfaan Oromoo Version).**

### **I. Hayyama Odeeffannoo irratti hundaa’e**

**Mata duree qorannichaa:** Itti quufinsa tajaajila qorichaa fi sababa kanaan walqabatu dhukkubsattoota dhukkuba yeroo dheeraa daddarboo hin taane kanneen hospitaala jalqabaa maqii dhaqan biratti,2024

**Seensa** Akkam bultan/ooltan.Maqaan koo\_\_\_\_\_jedhama.Ani Hospitaalotaa moottumaa Godinaa Shawaa Bahaa keessatti dhukkubsattoota dhukkuba yeroo dheeraa hin daddarbiine biratti itti quufinsa tajaajila qorichaa fi wantoota kanaan walqabatan irratti qorannoo gaggeessaa jira, kutaa saayinsii fayyaa hawaasaa yuunivarsiitii Salaalee keessatti barnoota digrii lammaffaa barachaa kan jiruudha.Qorannoon kana irratti hirmaachuu fi dhiisuu kee murteessuun kee dura kaayyoo qorannichaa, hojimaata, miidhaa kamiyyuu, faayidaa fi maaltu sirraa akka eegamu siif ibsuun barbaada. Qo’annoo kana irratti hirmaachuun kee guutummaatti fedhii keetiin kan murtaa’udha. Hirmaachuuf dirqama tokkollee hin qabdu; hirmaachuu ykn hirmaachuu dhiisuu filachuu dandeessa. Yoo hirmaachuu dhiisuuf murteeffatte bilisummaan sirraa hin fudhatamu. Yoo hirmaachuuf walii galtan bakka armaan gaditti kenname irratti akka mallatteessitan isin gaafatama.

### **Kaayyoo qorannichaa**

Kaayyoon qorannoo kanaa dhukkubsattoota dhukkuba yeroo dheeraa daddarboo hin taane hospitaala keessan keessa jiran biratti itti quufinsa kunuunsa qorichaa fi wantoota kanaan walqabatan madaaluudha.

### **Adeemsa**

Unka hayyama beekumsa qabu erga mallatteessitee booda, fi carraa gaaffii gaafachuu erga argatte booda, gaaffii gaafattoonni gaafatan akka deebistu si gaafatama.

### **Miidha**

Yeroo kee gaaffii deebisuuf fayyadamuu irraa kan hafe miidha tokkollee hin jiru.

### **Faayidaalee**

Hirmaachuuf walii galteen faayidaa battalaa tokkollee siif hin argamsiisu. Garuu qorannoo kana irratti hirmaachuudhaan, odeeffannoo dhugaa kan kennitoonni eegumsa fayyaa dhimmi ilaallatu dhaabbilee fayyaa adda addaa keessatti hojjetan barnoota fayyaa, abbootii taayitaa fi imaammata baastonni tooftaa fi imaammata gargaaran akka baasan gargaaru kennuu ni dandeessu itti fayyadama tajaajila guddisuuf kan hojjetamu yoo ta'u kunis dabaree isaatiin hawaasa waliigalaa ni fayyada.

### **Iccitii eeguu**

Odeeffannoon isin kennitan namoota odeeffannoo walitti qaban qofaaf iccitii kan ta'u yoo ta'u, kaayyoo qorannoo kanaa qofaaf kan oolu ta'a.

### **Unka hayyama odeeffannoo irratti hundaa'e**

Qorannoo kun barataa digrii lammaaffaa Yuniversitii Salaale muummee saayinsii hawaasaa kan ta'e Mayrama Abe akka qoratamuu fi Yuunivarsiitii Salaalee kolleejjii saayinsii fayyaa kutaa fayyaa hawaasaa guutummaatti deeggaramee fi qindoominaan akka ta'e sirriitti beeka ture. Kaayyoo qorannoo kanaa afaan naaf galuun odeeffannoo guutuu argadheera. Odeeffannoon ani nama gaaffii fi deebii godhuuf kennu hundi iccitii akka ta'u naaf himameera. Qorannoon kun balaa tokkollee akka hin qabnee fi faayida battalaa akka hin qabne hubadheera. Mirgi hojii qorannoo duraa fi ykn yeroo qorannoo sanaa odeeffannoo ifa hin taane gaafachuu fi akkasumas qorannoo kana irratti hirmaachuu akkuma tola ooltummaa qulqulluu ta'uu isaa mirkaneesseen



jira. Unka kana dubbiseera/ afaan ani beekun naaf dubbifamee haala armaan olitti ibsame hubadheera.

**Kanaafuu, qorannoo kana irratti akkan hirmaadhu walii galeera.**

☐ Eeyyee ☐ Lakki

Yoo eeyyee ta'e, Mallattoo\_\_\_\_\_ Yeroon jalqabe \_\_\_\_\_Yeroon xumurame\_\_\_\_\_.

**Nama rakkoo ykn gaaffii/yeroo kamiyyuu ibsa dabalataaf.**

Maqaa qorataa muummee: Mayrama Abe

Lakk bilbila harkaa: +251915988370

Imeelii: [marabe73@gmail.com](mailto:marabe73@gmail.com)

- i. Amaloota hawaas-dimoogiraafii hirmaattota qorannoo hospitaalottaa mottumaa Godina, shawaa bahaa, Mootummaa Naannoo Oromiyaa, Itoophiyaa

T. L	Jijjiiramaa/gaaffii	Deebii ta'uu danda'u	Yaada
101	Saala	1.dhiira 2.dubaara	
102	Age	_____	
103	Amantiin keessan maali?	1.Pirootestaantii 2.Ortodoksii 3.Muslim 4.Waaqeffannaa 5.Kanneen biro(ibsi_____)	
104	Bakki jireenyaa keessan eessa?	1.Magaalaa 2.Baadiyyaa	
105	Sadarkaan barnootaa keessan maali?	1.Dubbisuu fi barreessuu hin danda'u 2.Dubbisuu fi barreessuu ni danda'a 3.Sadarkaa sadarkaa tokkoffaa	

		4.Sadarkaa Lammaffaa 5.Kolleejjii fi Irra olii	
106	Haalli hojii kee maali?	1. Haadha manaa 2.Hojjetaa mootummaa 3. Daldalaa 4.Qonnaan bulaa 5.Hojjetaa guyyaa guyyaa 6.Kanneen biroo (Ibsi_____)	
107	Haalli Gaa'elaa amma qabdu maali	1.kan hin fuune/heruumne 2.kan fudhee/herumee 3.walhiikan 4.kan irraa dutee/du'e	
108	Gosa dhukkubaa	1.Dhukkuba onnee fi ujummoolee dhiigaa 2.Dhukkuba sukkaaraa 3.Dhiibbaa dhiigaa	

- ii. Gaaffiin itti quufinsa dhukkubsataa kunuunsa qorichaa keessatti madaaluuf (Afaan oromoo version)

T. L	Jijjiiramaa/gaaffii	Xiqqaa	Gidduu galeessaa	Bayyeessaa	Bay'ee bayessa	Bay'ise bayessa
201	Hariiroo ogummaa ogeessi qorichaa si waliin qabu					
202	Ogummaa hojjetoota mana qorichaa					
203	Gaaffii keessaniif deebii kennuuf					

	ogeessi qorichaa jiraachuu isaa					
204	Yeroo ogeessi qorichaa si waliin dabarsuu					
205	Fedhii Ogeessi Faarmaasii fayyaa keessaniif qabu					
206	Dandeettii ogeessi qorichaa waa'ee rakkoolee qoricha kee irratti si mudachuu danda'u si gorsuu					
207	Ogeessi qorichaa qorichi kee maal akka hojjetu hangam akka gaariitti ibsa					
208	Ogeessi qorichaa akkaataa qoricha kee itti fudhattu hangam akka gaariitti si qajeelcha					
209	Ogeessi qorichaa miidhaa cinaa dhufuu danda'u hangam akka gaariitti ibsa					
210	Ogeessi qorichaa gaaffii keessaniif hangam akka gaariitti deebii kenna					
211	Tattaaffii ogeessi qorichaa qorichi kee siif gaarii ta'uu isaa mirkaneessuuf hakiima kee waliin hojjechuuf godhu					
212	Tattaaffii ogeessi qorichaa fayyaa kee fooyyessuu fi fayyaa ta'ee akka turtu si gargaaruuf godhu					
213	Saffisa tajaajila qoricha ajaja ogeessa fayyaatiin kennamu					
214	Qulqullina qoricha siif kenname					

215	Tajaajila faarmaasii keessan walumaa galatti					
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iii. Gaaffilee Muuxannoo dhukkubsattootaa tajaajila faarmaasii wajjin walqabatan

T. L	Jijjiiramaa/gaaffii	Deebii ta'uu danda'u	
301	Ji'oota jahan darban keessatti yeroo meeqa ilaalamtee?	1. yeroo tokko 2. yeroo lama 3. yeroo sadii 4.yeroo afur  5. yeroo shan 6. yeroo shan ol	
302	Haala fayyaa keessan akkamitti madaaltu?	1. Dhukkubii cimaa 2. Dhukkubsataa	
303	haala Kaffaltii tajaajila faarmaasii	1.kiisha keessaa bahee 2. bilisa 3. dhaabbataan 4.Inshuraansiidhaan kan kaffalamu	
304	faarmasii kana keessaattii maaltuu foyya'uu qaba jetaa	1.argamaqoricha fooyyessuu 2.baay'ina hojjettootaa dabaluu 3.bakka eegaa dabaluu 4.yerooeegaa hir'isuu	

		5.tajaajila argachuuf tarkaanfiiwwan barbaachisan hir'isuu Kan biraa (_____)	
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iv. Gaaffiiwwan dhiyeessaa wajjin walqabatan


T. L	Jijjiiramaa/gaaffii	Deebii ta'uu danda'u	Yaada
401	Waa'ee tajaajila kennamu odeeffannoo qabduu? (Kutaawwan tajaajilaa eessa jiru? Fkn galmee, kutaa qorichaa fi kkf)	1.eeyyee 2.lakkii	
402	Odeeffannoo waa'ee tajaajila kanaa kenname hangam itti quufa?	1. Baayyee itti hin quufne 2.itti hin quufne 3. Giddu galeessa 4. itti quufe 5. Baay'ee itt quufe	
403	Dhiyeessitoonni jecha ati hubachuu hin dandeenyeen si waliin mari'atanii?	1.eeyyee 2.lakkii	
404	Deggarsaa, deebii kennuu fi kabaja hojjetoota mana qorichaatii hangam itti quuftan?	1. Baayyee itti hin quufne 2.itti hin quufne 3. Giddu	

		galeessa 4. itti quufe 5. Baay'ee itt quufe	
405	Kutaan dhuunfaa, golee ykn meeshaan si haaguguu danda'u naannoo sanatti turee?	1.eeyyee 2.lakkii	
406	Akkamitti itti quufte akkaataa haguugii kee	1. Baayyee itti hin quufne 2.itti hin quufne 3. Giddu galeessa 4. itti quufe 5. Baay'ee itt quufe	
407	Ogeessii sagalee ol kaasee si marisiisa, akka warri kan dhagahanitii	1.eeyyee 2.lakkii	
408	Iccitiin odeeffannoo dhuunfaa keetii ogeessa qorichaa waliin mari'achuun eegamee turee?	1.eeyyee 2.lakkii	
409	Iccitiin kee eegamutti hangam quuftee?	1. Baayyee itti hin quufne 2.itti hin quufne 3. Giddu galeessa 4. itti quufe 5. Baay'ee itt quufe	

v. Gaaffii ajaja qorichaa guutuun walqabatan

T. L	Jijjiiramaa/gaaffii	Deebii ta'uu danda'u	Yaada
501	Qorichootni fi meshaaleen yaalaa siif ajajamee turee?	1.eeyyee 2.lakkii	
502	Yoo eeyyee ta'e, mana qorichaa hospitaalaa keessatti argachuu dandeesseetaa?	1.eeyyee hunda 2.tokko tokko malee hunda miti 3.isaan keessaa tokkollee hin jiru	
503	Qoricha kee walitti qabuuf yeroo hammamii eegde?	1. <= daqiiqaa 10 2. Daqiiqaa 11 – 30 3. >sa'aatii 1/2 – sa'aatii 1&1/2 4. >1 1/2 – 2 & 1/2 sa'aatii 5. >2 & 1/2 - sa'aatii 3 & 1/2 6. >sa'aatii 3 & 1/2	
504	Qorichootaa fi meeshaaleen jiraachuu isaaniitti hangam itti quuftee?	1. Baayyee itti hin quufne 2.itti hin quufne 3. Giddu galeessa 4. itti quufe 5. Baay'ee itt quufe	

### Annex 3: Ethical clearance



**Salale University**  
**Institutional Research Ethics Review Committee (SIU-IRERC)**


Date: 22 / 10 / 2016  
Ref. No: SIU-IRERC/113/2016

To: Mayrama Abe


**Subject: Research Ethics Approval Letter**

This is to kindly notify you that your project protocol entitled **"Satisfaction with pharmaceutical care and associated factors among chronic non-communicable disease patients at public hospitals in east Shoa Zone, Oromia, Ethiopia 2024."** has been approved for the intended one-year period of implementation. The review process of the Research protocol has been carefully conducted by Salale University institutional research ethics review committee (SIU-IRERC). The protocol is ethically sound to be implemented through adhering to the research ethics principles during the implementation. Thus, the committee is pleased to inform you that your study protocol has been approved.

The committee would like to remind you that the research principal is expected to submit a progress report of the research at least once before the end of its implementation. The committee also looks forward to receiving the final technical report and recommendations that will be generated from the study.



Sincerely,



Solomon Balami(Phd)  
Salale University IRERC  
Chairperson

**CC:**

- Salale University Institutional Research Ethics Review Committee
- Salale University Health Sciences College CARD



## Annex 4: Declaration

### Approval sheet

I, the undersigned, MPH student in General public Health declare that this research thesis is my original work.

Name: Mayrama Abe

Signature



Date \_\_\_\_

### Advisors' approval form

We here by certify that we have supervised and evaluated the research thesis entitled “satisfaction with pharmaceutical service and associated factors among chronic non communicable disease patients at Public Hospital in East Shoa Zone, Oromia, Ethiopia, 2024: facility based cross-sectional study with quantitative data collection method” prepared by Mayrama Abe under our guidance. We recommend that this research thesis be accepted as the thesis required for partial fulfillment of the Masters of General Public Health.

Advisors: Name

Signature

Date

1. Mr. Qaro Qanche (MPH, Assistant professor)



Dec.8/2024

2. Dr Diriba Gemed (MD, MPH/RH)



\_\_\_\_\_

### Examiner's approval form

We hereby certify that we have examined the research thesis entitled “satisfaction with pharmaceutical service and associated factors among chronic non communicable disease patients at Public hospital in East Shoa Zone, Oromia, Ethiopia, 2024: facility based cross-sectional study with quantitative data collection method” prepared by Mayrama Abe. We recommend that this research thesis be accepted as the thesis required for partial fulfillment of the Masters of General Public Health.

Examiners:

Name

Signature

Date

1.

2.