



**ADDIS ABABA UNIVERSITY**

**COLLEGE OF HEALTH SCIENCE**

**SCHOOL OF PUBLIC HEALTH**

**Assessment of equity on outpatient service utilization in selected health  
centers of Addis Ababa, Ethiopia**

**By**

**Mihret Kassahun**

**A Thesis submitted to the School of Public Health, Addis Ababa  
University in partial fulfillment of the requirements for the Degree of  
Masters of Public Health (MPH) in Health Service Management**

November, 2018

Addis Ababa, Ethiopia

**Assessment of equity on outpatient service utilization in selected health  
centers of Addis Ababa- Ethiopia, 2018**

**By: MihretKassahun (Bsc in Nursing)**

**Advisors: Professor Damen Haile Mariam (MD, PhD),**

**Mr. GashayeAsrat (Bsc, MPH)**

**A Thesis submitted to the School of Public Health, Addis Ababa University in  
partial fulfillment of the requirements for the Degree of Masters of Public  
Health (MPH) in Health Service Management**

**November, 2018**

**Addis Ababa, Ethiopia**

Addis Ababa University

Health Science College

School of Public Health

Assessment of equity on outpatient service utilization in selected health centers of

Addis Ababa, Ethiopia

By: Mihret Kassahun (Bsc in Nursing)

**Approved by the examining board**

Professor Damen Haile Mariam (MD, PhD)

\_\_\_\_\_

Advisor

Mr. GashayeAsrat (Bsc, MPH)

\_\_\_\_\_

Advisor

\_\_\_\_\_

\_\_\_\_\_

Examiner

\_\_\_\_\_

\_\_\_\_\_

Examiner

## **Acknowledgement**

First of all, blessed be the name of the Lord, Jesus Christ, for the grace and accomplishment I received in him throughout my work.

I wish to express my sincere gratitude to all those who in one way or another have contributed for the success of this thesis.

I would like to express my very great appreciation to Professor Damen Haile Mariam and Mr. Gashaye Asrat for their valuable and constructive suggestions during the selection of the research title. I would also like to express my deep gratitude for their guidance; useful critiques of this thesis that made me work hard and for their willing to give time so generously.

I am also thankful for Addis Ababa University and Addis Ababa Health Bureau for giving me permission and ethical clearance to perform this thesis. I am also grateful for the staffs of Addis Ababa health centers and study participants. Lastly I would like to express my deep gratitude for Federal Ministry of Health and its staffs for their willing to give me the document which is important for the study.

## **Table of contents**

Acknowledgement .....	1
List of figures .....	4
List of tables.....	5
List of abbreviation and acronyms.....	6
Abstract.....	7
1. Introduction .....	9
1.1. Background .....	9
1.2. Statement of the problem .....	11
1.3. Justification of the study .....	13
2. Literature review.....	14
3. Research objectives .....	22
3.1. General objective.....	22
3.2. Specific objectives.....	22
4. Methods .....	23
4.1. Study setting and period.....	23
4.2. Study design .....	23
4.3. Population.....	23
4.3.1. Source population .....	23
4.3.2. Study population .....	23
4.3.3. Study unit .....	24
4.3.4. Inclusion criteria .....	24
4.3.5. Exclusion criteria .....	24
4.4. Sample size determination .....	24
4.5. Sampling technique .....	26
4.6. Data collection methods and tools .....	28

4.7.	Study variables .....	28
4.7.1.	Dependent variables.....	28
4.7.2.	Independent variables .....	28
4.8.	Operational definition .....	29
4.9.	Data entry and analysis .....	30
4.10.	Data quality assurance and management.....	33
4.11.	Ethical consideration .....	33
4.12.	Dissemination plan .....	34
5.	Results .....	35
5.1.	Descriptive .....	35
5.2.	Comparison with general population reported sickness in National Health Service utilization and expenditure survey report.....	39
6.	Discussion.....	45
6.1.	Strength and limitation of the study .....	48
6.2.	Conclusions and recommendations.....	49
7.	References .....	51
	Annexes.....	54
	Informed consent (English form) .....	54
	Data collection tool (Amharic form).....	68

## List of figures

Figure 1; Conceptual framework -----	21
Figure 2; Schematic presentation of sampling procedures -----	27
Figure 3; Wealth quintiles of OPD visitors in the study sample, Health centers in Addis Ababa, Ethiopia, 2018-----	37
Figure 4; Comparison of individuals reported illness in the survey and OPD visitors of study sample by sex, Health centers in Addis Ababa, Ethiopia, 2018-----	40
Figure 5; Comparison of individuals reported illness in the survey and OPD visitors of study sample by educational status, Health centers in Addis Ababa, Ethiopia, 2018-----	41
Figure 6; Comparison of individuals reported illness in the survey and OPD visitors of study sample by employment status, Health centers in Addis Ababa, Ethiopia, 2018-----	42
Figure 7; Comparison of individuals reported illness in the survey and OPD visitors of study sample by wealth status, Health centers in Addis Ababa, Ethiopia, 2018-----	43

## List of tables

Table 1; Demographic characteristics of study participants, Health centers in Addis Ababa, Ethiopia, 2018-----35

Table 2; Socio economic status of study participants, Health centers in Addis Ababa, Ethiopia 2018-----36

Table 3; Information on the status of respondents visit to the health center, Health centers in Addis Ababa, Ethiopia, 2018-----38

## List of abbreviation and acronyms

AA	Addis Ababa
ANC	Ante Natal Care
CI	Concentration Index
DHS	Demographic Health Survey
EDHS	Ethiopian Demographic Health Survey
EmOC	Emergency Obstetric Care
FHC	Family Health Care
FMOH	Federal Ministry of Health
GP	General Practitioner
HCs	Health Centers
HI	Horizontal Inequity
HMIS	Health Management Information System
HSTP	Health Sector Transformation Plan
M&E	Monitoring and Evaluation
MCH	Maternal Health Care
MDG	Millennium Development Goal
OPD	Out Patient Department
PCA	Principal Component Analysis
PHC	Primary Health Care
SES	Socio-Economical Status
WGW	Wolisso Goro Wonchi

## **Abstract**

**Background** - Equity is the absence of avoidable or remediable differences among populations or groups defined socially, economically, demographically or geographically. The Ethiopia Federal Ministry of Health (FMOH) has formulated and implemented various effective policies and strategies to the benefit of the nation's citizens. Inequity often manifests as a large and growing gap between the best-off and worst-off people in urban areas.

**Objective**—The objective of this study was to assess equity on outpatient health services utilization in selected health centers of Addis Ababa, Ethiopia.

**Methodology**—A facility based cross sectional study design was conducted in selected health centers of Addis Ababa. A stratified sampling technique with proportional allocation of sample size was used by considering the sub-city as a group and then a total of 10 health centers were assessed. Study participants were selected by systematic random sampling. A total of 466 sample size was determined. A structured questionnaire was used to collect data. Data was entered into Epi data version 3.1 and was exported to Stata/SE 14.0 and SPSS version 20. Illness report in Health service utilization and expenditure survey 2017 constituted the reference population. The result was summarized by using tables and charts. Wealth index was built by principal component analysis. Chi-squared goodness test was used to test the significant difference between the socio demographic variables of outpatient visitors with individuals reported illness in the survey.

**Results**—A total of 457 participated in the study with response rate of 98.07%. Mean age of respondents was 34.5 ranging from 0.8 – 81 years. There were 296 (64.8%) female and 161 (35.2%) male respondents. To assess equity, data of OPD visitors of the study sample were

compared with individuals reported illness in health service utilization and expenditure survey 2017. There were significant differences in the proportion of male and female populations' [ $\chi^2$  (1, n = 457) = 211.917, (p < 0.000)], educational statuses [ $\chi^2$  (3, n = 457) = 297.2, (p < 0.000)], employment statuses [ $\chi^2$  (2, n = 457) = 642.4, (p < 0.000)] and wealth statuses [ $\chi^2$  (1, n = 457) = 10.46, (p < 0.033)] identified in the current sample as compared with the values that was obtained in the survey.

**Conclusions and recommendations** - Findings in this study showed being male, having primary education, being employed and having lowest and 4<sup>th</sup> wealth status contributed to inequity in outpatient service utilization. But further analysis is required that incorporate different health facilities at different level of care across regions and residences.

## **1. Introduction**

### **1.1. Background**

Equity is the absence of avoidable or remediable differences among populations or groups defined socially, economically, demographically or geographically. It is also described as one of the dimensions of quality (1). According to Global report in urban health, equity is an ethical imperative and an essential principle of the Sustainable Development Goals (SDGs) and the new global health agenda to attain Universal Health Care (UHC). Cities everywhere can benefit from greater investment in achieving equity in health. In addition to ensuring that no one has to suffer from unfair disadvantages. Systems for monitoring the coverage of services should record not only the total number of people who have or do not have access, but also some socio-demographic details about them (2, 3).

The Ethiopian Federal Ministry of Health (FMOH) has formulated and implemented various effective pro-poor policies and strategies that have created an enabling environment to guide, coordinate, direct and synergize efforts to the benefit of the nation's citizens. The country has successfully implemented its strategy of expanding and rehabilitating primary health care facilities. To this effect, 16,440 health posts, 3,547 health centers and 311 hospitals have been constructed (1, 4). In order to provide better service, the Ethiopian health service is restructured into a three tier system; primary, secondary and tertiary level of care. The primary level of care is lowest level in the health care tier system includes primary hospital, health center and health post. Though good trends are observed, the country is still facing a triple burden of diseases consisting of communicable diseases, non-communicable diseases and injuries and also increasing demand of health care. This urges the Government to be increasingly focused on

addressing equity in access to health care, quality in health services provision and in strengthening community engagement and ownership in health decision-making and management (1).

Transformation in equity and quality of health care is one of the four pillars of health sector transformation plan (HSTP) (Transformation agenda). Thus, strategic objective on equity deals with reducing disparities between regions and groups with different levels of underlying social advantage/disadvantage (women, youth, children, the wealthy, the poor and people with disabilities) in the provision of quality health services (1). At the heart of UHC is a commitment to equity, FMOH envisions all of its citizens enjoying equitable and affordable access to all types of health services. To realize this, it entails a robust Monitoring and Evaluation (M&E) system that highlights status of utilization of health services and desirable healthy practices using key equity lenses. So in addition to measuring average or aggregate levels of indicators, it is essential to have measures disaggregated by a range of demographic (i.e., age and sex), geographical (i.e., urban/rural and regional differences) and socio-economic (i.e., wealth and education) stratifiers as well as to develop appropriate indicators reflecting equity. Differences between disaggregated demographic and socio economic groups in Outpatient department (OPD) attendance is one of the core equity indicators (1).

## **1.2. Statement of the problem**

Inequity often manifests as a large and growing gap between the best-off and worst-off people in urban areas, but also as a socially graded pattern that affects the entire population. It is often worse in urban than in rural areas because of the tendency for both extreme wealth and poverty to concentrate in cities. Inequity is perhaps one of the biggest urban disadvantages for health as it hampers not only development in health, but also in social, economic and human development for the city as a whole, with implications for national and global development (2).

Evidences showed that, there is an existing inequity in health between the rich and poor communities, urban and rural districts, between social groups and across other social differentials. Additionally, economic and geographic barriers still pose a significant barrier to access to health care (1, 5). Not all the gender and age Biological difference of utilization of services are justifiable, some of these differences should also be considered as injustice (6).

In terms of four socioeconomic determinants; wealth quintile, maternal education, administrative region and place of residence, data from 2014 Ethiopian Demographic Health Survey (EDHS) was analyzed to assess inequities in utilization of modern contraceptive methods, antenatal care, facility based delivery and postnatal checkup. The prevalence of modern contraceptive use among mothers with no education is about two times less than those more than secondary educated. Ante Natal Care (ANC) service utilization is 3 times higher among women with more than secondary level educated than among mothers with no education (7). A household study in Esera, South west Ethiopia showed monthly income, distance from health facility, disease

condition and perceived severity of a disease were found to be significantly associated with healthcare seeking behavior (8).

Studies conducted in Ethiopia showed the differences in socio-demographic profiles on utilization of health services mostly focused on household survey (8-11). Sampling survey on general population might cause participants in good health to not report their past visit to health services and the other thing is there is no way of knowing respondents utilized services appropriately or not and this might cause recall bias.

A facility cross sectional study design was conducted in selected health centers of Addis Ababa, Ethiopia. So it tried to assess the equity gaps by comparing the socio demographic profiles of individuals who reported illness in the National Health Service utilization survey with that of OPD visitors of health center on actual setup.

### **1.3. Justification of the study**

The result of this study can be used for the health sector to raise awareness on determinants of equity. This study will help the Ministry of Health to recommend policy and also will be used to develop an evidence based plan for action for decision-makers. As equity is one of the dimensions of quality of health care delivery and finding about socio economic differences in OPD attendance is one of the core equity indicators, I believe this study will help as an input to monitor health service utilization difference between disaggregated social groups. In addition, the result of this study may inform other studies investigating socio economic differences in health care utilization using health Survey data.

## **2. Literature review**

Appreciably different researches across the world showed the effects of socio demographic characteristic on utilization of health services in order to indicate the implication of equity. The challenge of health inequity is not limited to low-income countries; it is a challenge for higher income countries too. City residents vary by their geographic, social, cultural and economic backgrounds, which in turn, influence their health-related behavior, including health-care utilization. To monitor equity in the supply of, and demand for health services, indicators should be disaggregated by income or wealth, sex, age, disability, place of residence (e.g. rural/urban, province or district), migrant status and ethnic origin (e.g. indigenous groups) (2, 3).

### **2.1. Gender**

Gender also contributes markedly to inequality in Denmark (12). Males were less likely to report utilization in Brazil (13). Utilization of both outpatient and inpatient services in general population of Afghanistan were higher among males compared to females for both inpatient and outpatient care. Sex contributed to a bulk of the inequality disfavoring the poor in utilization of outpatient and inpatient services (6).

There was no significant difference in inpatient care utilization between male and female utilization in China (14). Another study in China, gender differences who admitted in hospital were employed for analysis in seven year period. Comparison of variables between female and male during hospitalization revealed differences with clinical and statistical significance. There were a slightly larger proportion of male patients compared to female. There was one exception that in patient more female were admitted to hospital. (15). Higher odds of also reported seeking

health-care were associated with being female. Females are approximately twice as likely to seek health-care compared to males in the same country(16). A cross sectional study in Dessie, Ethiopia females was 4.071 times more likely to utilize modern health services than males (10).

## **2.2. Educational status**

Stronger association was seen when ranking according to education in Denmark. This may indicate that educational level is more decisive than income for usage of outpatient services, rehabilitation and specialist in primary care among diabetes patients (12). Those with no schooling or incomplete primary schooling also contribute to inequality in Brazil (13).

Educational level is negatively associated with Family Health care (FHC) visits in Mongolia (17). Households with some education had statistically significant with higher utilization of services compared to with no education for both outpatient and inpatient care in all settings except for public facilities for outpatient care where there was a similar trend but not a significant difference in Afghanistan(6). No association was found between education and outpatient care utilization in China (14).

The findings in maternal health service also specify that the women's and their husbands' education was significantly associated with greater utilization in Bangladesh (18). Significance difference also exists between cases and controls in Butajera with respect to mother's and father's education (11).

## **2.3. Employment status**

In China Significant difference was observed in the employment status between genders. Most male patients 30,452 (37.06) were government employees, while the unemployed constitute the largest proportion of female patients (15).

Lower odds of reported health-care utilization were also associated with being employed compared to being unemployed in South Africa (16). Husband occupation was one of the factors associated with ANC utilization in Tigray (9).

#### **2.4. Wealth status**

In the general population in Afghanistan, the poorest households had the least utilization of outpatient and inpatient care compared to the wealthiest households (6). A study in Bangladesh found statically significant level became stronger with higher wealth quintiles in maternal health care services (18). Another study done on older people with cardiovascular disease in China, Rich patients used more outpatient service than poorer. No association was found between household wealth status and inpatient service utilization (14).

A study focused on Sub-Saharan countries including Ethiopia, Uganda and Tanzania showed, 66% of women who delivered at hospital belonged to the richest wealth group while only 2% belonged to the poorest wealth group in Wolisso, Goro and Wonchi, Ethiopia (WGW) districts. In the same districts, 40% of those who delivered at HCs belonged to the richest group while 7% belonged to the poorest group. Iringa (Tanzania) district was the least inequitable. Overall, the poorest population group was strikingly under presented across the districts (19).

A study which showed the characteristics of women utilizing Emergency Obstetric Care (EmOC) at Wolisso hospital compared with women in general population in the Ethiopia DHS 2011. There were significant differences in all of the proxy wealth variables between women using EmOC at hospital and those women in the DHS sample, suggesting that users of EmOC had higher wealth scores than women in the general population (20).

## **2.5. Income**

A study done in Denmark among diabetes patients, the higher income patients are receiving outpatient services, whereas the lower income patients are receiving more inpatient services and services in general practice (12). A study done in Spain also found that, impacts of changes in utilization for income groups on different components of public health care expenditure. When it is stratified by income quartiles, there is a noticeably greater increase in utilization among highest quartiles, the 3<sup>rd</sup> and 4<sup>th</sup> than in lowest quartiles, the 1<sup>st</sup> and 2<sup>nd</sup>, which leads to conceive of a relative worsening inequity (21).

In contrast research in Brazil showed, a higher likelihood of underutilization of health system among individuals of highest economic status (13). Use of primary care exhibits a negative association with Socio economic status (SES) in Italy. After controlling for health status and socio-demographic covariates, the probability to visit a General Practitioner (GP) decreases with SES. Indicating that access to primary care is inequitable in favor of the less well-off (22).

The study done in Mongolia used household income as a socioeconomic indicator in family health center visits which was negative and statistically significant. In urban areas, lower income groups were more likely to use Primary Health Care (PHC) than those with higher income. Income related inequality in FHC utilization was the main cause by 33.25% (17). Findings in China revealed that, income status variables were the largest contributors to inequities in both outpatient and inpatient service use. The study which compared income levels showed that, the higher income levels were more likely to utilize outpatient services (23).

Study's results in Nigeria established that inequity in utilization of healthcare was generally skewed against the poor. The high income groups are more likely to visit or consult health centers than the poor counterpart. This implies that the socioeconomic status of the household plays a significantly role in being able to access healthcare services in the country (24). In other hand, Utilization of public health posts in Zambia is to the advantage of the poor because the concentration curve lies above the line of equality. But concentration curve for public hospital utilization mostly lies below the line of equality indicative of pro rich utilization pattern (25).

A cross sectional study in Dessie, Ethiopia showed adults above the poverty line were 4.026 times more likely to use the health services as compared to those below the poverty line (10). There was also a significant differences exist between cases (households with pregnant mothers who received ANC follow up services from formal health providers) and controls (pregnant mothers did not receive ANC follow up services) with respect to annual household income a case control study done in Butajira, Southern Ethiopia (11).

## **2.6. Age**

Higher likely of underutilization was seen in younger adults in Brazil (13). Utilization increased by age group with similar trends in use for public health facilities for inpatient care in Afghanistan which also contributed to inequality (6). Another study done on older people with cardiovascular disease in China, Patients in older groups used more outpatient care than younger (14).

As age increases the odds of healthcare utilization also increase (OR = 1.02), i.e. for a one-year increase in age the odds of seeking health-care increase by 2% in South Africa (16). In contrast to Nigerian study in which age also plays a significant influence on healthcare utilization, the coefficient is negative, signifying that increase in age tends to impact healthcare utilization negatively (24).

## **2.7. Other factors**

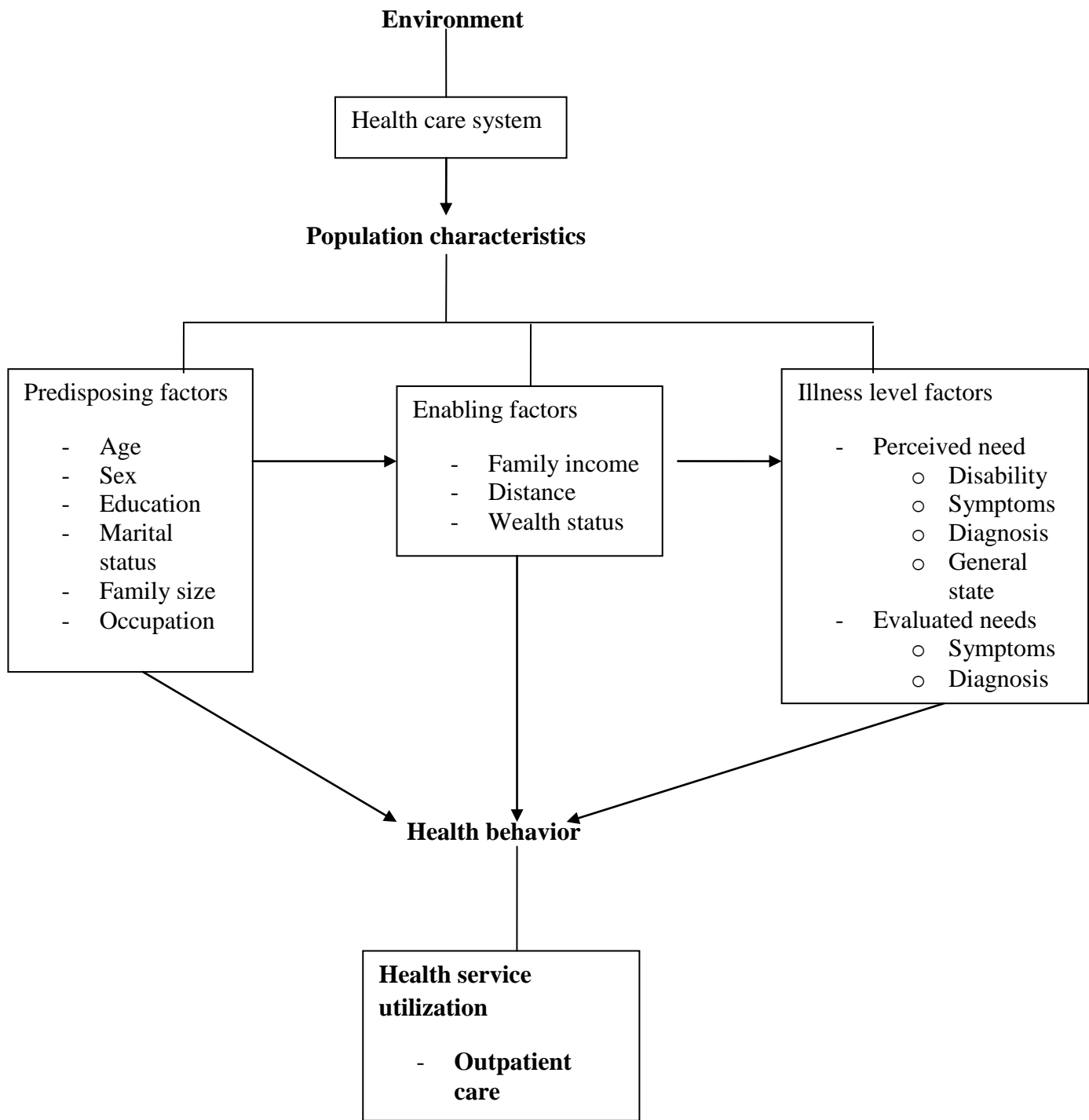
There was also negative association between FHC visits and disability status. The number of work/school days missed due to illness is negatively associated with FHC visits (17).

In other way, a qualitative study done on women utilizing Maternal Child Health (MCH) services in India evidenced, geographical accessibility and transportation as the main obstacle for using healthcare facilities (26). Study in South Africa showed medical insurance and immigration status were also found to be significantly associated with health-care utilization

(16). The utilization rate of healthcare services is found to be positively related to household expenditure in Nigeria (24).

A study in Dessie, Ethiopia found having poor perceived health status, having two or more than two illnesses, severe perceived severity of illness and having chronic health problem were found to have a statistically significant association with utilization (10). A study done in Butajira also showed significant differences exist between cases and controls with respect to place of residence and walking distance from nearest health institutions (11). The other factors which also associated with ANC utilization were marital status, proximity of health facility to the village (9).

As seen in the above reviewed literatures, there was inequality between socio demographic groups which uses health services at different level across countries. It showed countries with good health system also affected by inequity in health service utilization. It also tried to associate the socio demographic factors with health care utilization at different settings. But those literatures couldn't address how socio demographic characteristic differences make ill individuals who need treatment to utilize health facility or not. This research tried to assess the gaps by comparing the socio demographic profiles of individuals who reported illness in the National Health Service utilization survey group with that of OPD visitors of health center which could be used as another method to assess the equity gaps by identifying the difference between the socio demographic profiles of individuals reported illness in the survey and OPD visitors of health center.



**Figure 1; conceptual framework (27) with modification**

### **3. Research objectives**

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

- To assess equity on outpatient health services utilization in selected health centers of Addis Ababa, Ethiopia from February to March, 2018.

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

- To describe the demographic and socio-economic profile of clients utilizing outpatient services within selected health centers of Addis Ababa.
- To determine equity gaps by comparing the demographic and socio-economic profile of those utilizing health services with populations who have reported sickness in National Health Survey or other reports within the catchment areas of the health centers included in the study.

## **4. Methods**

### **4.1. Study setting and period**

This study was conducted in Addis Ababa health centers from February to March, 2018. Addis Ababa city administration is the capital city of Ethiopia. It consists of 10 sub-cities, 117 Woredas and 97 health centers (HCs). A recent Health Management Information System (HMIS) report from FMOH indicated that a total of 3,433,794 people live in the city. HC is one of the primary health care units which are basic or general health care focused on the point at which a patient ideally first seeks assistance from the medical care system. It is the basis for referrals to secondary and tertiary level of care. The HC provides both preventive and curative services to approximately 25,000 people altogether (1).

### **4.2. Study design**

This study used a quantitative facility based cross sectional study design to assess equity in outpatient health service utilization in selected health centers of Addis Ababa.

### **4.3. Population**

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

The source population for this study was all clients who came at health center to get outpatient services in Addis Ababa.

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

The study population includes all clients who came at selected health centers to get the outpatient service during the study period.

### **4.3.3. Study unit**

The study units are all randomly selected clients who came at selected health center to get the outpatient service during the study period.

### **4.3.4. Inclusion criteria**

All randomly selected clients who came to the selected health centers to get the outpatient service during the study period were included

### **4.3.5. Exclusion criteria**

Clients who came to the facility for ANC and Family planning services; Clients under the age of 18 who came to the facility without parents or guardians and unconscious patients were excluded from the study.

## **4.4. Sample size determination**

Sample size was calculated by using EpInfo version 7 Statcalc.

### **For the first objective**

By using single population proportion formula at 95% of confidence interval

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

With the assumptions of:-

P= Prevalence from previous study done on equity in health service on ANC visit estimated to be 54% (0.54) (20)

Margin of error (d) = 5%

The sample size was 382 and by adding 10% non-response rate the final sample size required for this study was 420.

### For the second objective

The total sample size was calculated using two population proportion formulas, since comparison made between those utilizing health services with that of population reported sickness which is reported from Health service utilization and expenditure survey or other report within the catchment area

Let: 
$$P = \frac{P_1 + rP_2}{1+r}$$

$$N = \frac{[Z_{\alpha/2} \sqrt{(1+1/r)P(1-P)} + Z_{\beta} \sqrt{P_1(1-P_1) + P_2(1-P_2)/r}]^2}{(P_1 - P_2)}$$

By using the following assumptions;

N = sample size

$P_1$  = prevalence of utilization of health service from previous study =54% (20)

$P_2$  = prevalence of utilization of health service from EDHS 2011 =34% (20)

$Z_{\alpha/2} = 1.96$  (standard score corresponding 95% CI)

$Z_{\beta} = 0.84$  (standard score corresponding to 80% power)

r = ratio between highest wealth quintile group ( $n_1$ ) and lowest wealth quintile group ( $n_2$ ) is taken as 1

The sample size calculated as 212 in each group making a total of 424. By adding 10% non response rate the final sample size was 466.

The sample size for the second objective yielded the largest size which was 466 so the final sample size for this study was 466.

#### 4.5. Sampling technique

A stratified sampling technique with proportional allocation of sample size was used in this study. Since there is a list of 10 sub-cities, strata were formed by considering the sub-city as a group. So from each stratum in this case sub-city, one health center was chosen from each sub-city by simple random sampling technique using lottery method which means a total of 10 health centers were assessed. Study participants were selected by systematic random sampling technique. Proportional allocation of the sample size in each health center was used to get study participants based on the last year patient flow. The patient flow time period used to allocate study participants was the same with the data collection period.

$$:n_1 = \frac{n}{N} * N_1$$

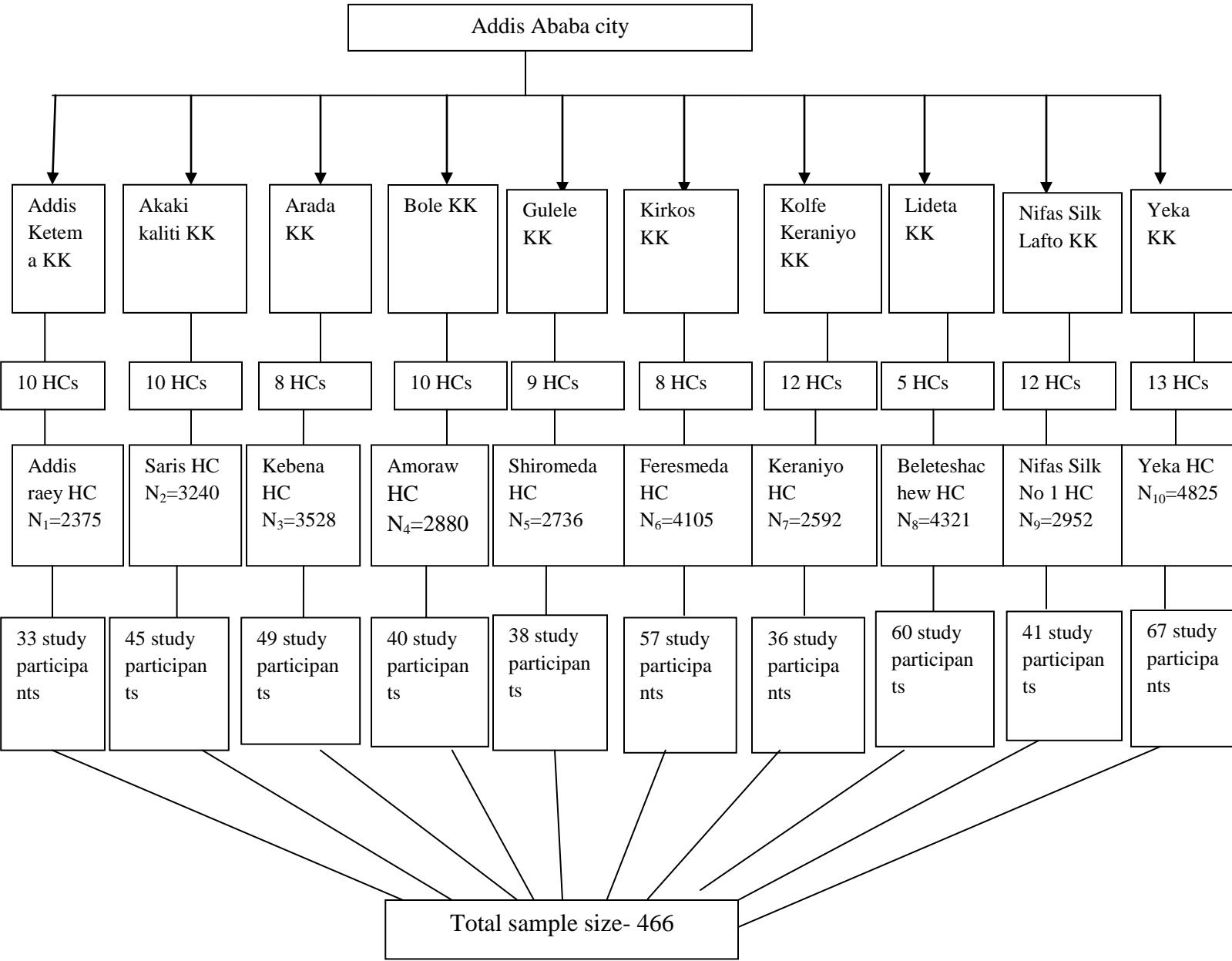
By using the following assumptions:

:  $n_1$  - sample size of the selected health center

:  $n$  - total sample size

:  $N_1$  - patient flow of the selected health center

:  $N = 33,561$  the sum total of the selected 10 health centers



\*KK – Kifle Ketema

**Figure 2; Schematic presentation of sampling procedures**

#### **4.6. Data collection methods and tools**

A structured data collection tool based on 2016 EDHS report on socio demographic characteristics of Ethiopia and from previous research in Kenya which studied health and medical service utilization (28) was adopted. The questionnaire was prepared in English form and translated into Amharic version. The Amharic version of questionnaire was used for actual data collection. After getting permission to precede data collection, data was collected by 3 trained data collector through a face to face interview.

#### **4.7. Study variables**

##### **4.7.1. Dependent variables**

- Equity in utilization of health services

##### **4.7.2. Independent variables**

- **Demographic characteristics**
  - Age
  - Gender
  - Marital status
  - Family size
  - Residence
- **Socio economic characteristics**
  - Educational attainment
  - Employment status
  - Income
  - Wealth

- Occupation

#### **4.8. Operational definition**

**Equity in utilization of health care:** is defined as use of health services matching differential health needs of different social groups within the population (20).

Equity is assessed by whole spectrum approach applies to dimensions of inequality that contain multiple subgroups, and considers the situation across the entire population. Subgroups may have rank, as is the case with economic status, education or employment status (29).

#### **Basic considerations in the measurement of health equity (30)**

- Measure of health outcome:- utilization of health service
- Population group across which comparisons are made – SES, gender, education level and employment status
- Identifying reference group against health outcome differences are measured

**Employment:** Currently employed Respondents who were employed in the 7 days before the survey; includes persons who did not work in the past 7 days but who are regularly employed and were absent from work for leave, illness, vacation, or any other such reason.

**Income quartiles:** are computed on the basis of the total equivalised disposable income attributed to each member of the household.

The data of each person are ordered according to the value of the total equivalised disposable income. Four cut-point values (the so-called quintile cut-off points) of income are identified, dividing the survey population into five groups equally represented by 20% of individuals.

The first quintile group represents 20% of the population with the lowest income (an income smaller or equal to the cut-off value), and the fifth quintile group represents the 20% of population with the highest income (an income greater than the fourth cut-off value)

**Occupation:** Categorized as professional/technical/managerial, clerical, sales and services, skilled manual, unskilled manual, domestic service, agriculture, and other.

**Outpatient services:** service given to a patient who is receiving ambulatory care at a hospital or other facility without being admitted to the facility.

**Outpatient visit:** a patient who is not hospitalized overnight but who visits a hospital, clinic or associated facility for diagnosis or treatment.

**Socio-economic status:** is an economic and sociological combined total measure of a person's work experience and of an individuals or family's economic and social position in relation to others, based on income, education, and occupation.

**Social determinants of health:** the complex, integrated and overlapping social structures and economic systems that include social environment (income, gender), physical environment, health services (access), structural and societal factors and that are responsible for most health inequities.

**Wealth index:** is a composite measure of a household's cumulative living standard. It is calculated using easy to calculate data on household's ownership of selected assets, such as televisions and bicycles; materials used for housing construction; and type of water access and sanitation facilities.

#### **4.9. Data entry and analysis**

The questionnaires were stored appropriately to prevent damage and all data was compiled and entered into Epi data version 3.1. The entered data was exported to Stata/SE 14.0 and SPSS version 20.

In this study, participants were ill individuals who visited outpatient service in HCs so datasets of individuals who reported illness based on four (Gender, education, employment and wealth status) socio demographic profiles in Health service utilization and expenditure survey 2017 was selected for comparison. The socio demographic profiles used for comparison in this study were arranged in coherent with the socio demographic profiles of ill individuals reported in Health service utilization and expenditure survey. These variables were selected based up on the recommendation given by equity-oriented monitoring in the context of universal health coverage (29). Illness report in Health service utilization and expenditure survey 2017 constituted the reference population. In these reference populations, the major reasons perceived by individuals who were ill but not visit the nearest health facility considered as one of the provider side factors which contributed to inequity in health service utilization. These reasons stated as unavailability of medicines, unqualified health stuffs, long waiting time, unfriendly stuffs, facility closure at the time of visit and failure to provide exempted services or accept patients who use the fee waiver system (31). So these reasons could be taken as one of the factors besides the socio demographic factors that cause equity gaps in outpatient health service utilization in this study.

The descriptive part of the result was summarized by using mean and standard deviation to describe quantitative data, percentage for categorical data and additionally tables and charts by using Stata/SE 14.0.

Wealth index was built by Principal Component Analysis (PCA) using SPSS version 20. It took steps to determine wealth quintiles of respondents. In doing this, variables to be included were specified based on EDHS 2016. The variables should be measured on interval/ ratio scale so

categorical variables were changed to binary/ dummy variables. Thirty household assets were subjected to principal components analysis (PCA). The suitability of the data for factor analysis was assessed by Bartlett's test of Sphericity and Kaiser-Meyer-Olkin (KMO). The analytic process was based on matrix of correlation between variables. Bartlett's test of Sphericity was used to test the strength of the relationship between variables. Also Kaiser-Meyer-Olkin (KMO) measured the sampling adequacy to be greater than 0.5 for each individual variable as well the set of variables. Then factors were extracted by using principal component approach and the Eigen values/ Kaiser Criteria was used to determine the number of principal components to retain. Only factors with eigenvalues of 1 or more were retained. The next step was factor rotation and interpretation. Factors were rotated by using Varimax Orthogonal approach to present the pattern of loading in a manner that is easier to interpret by identifying variables that have complex structure. After that, new variables were constructed using factor scores for further analysis. Lastly the factor scores were summed and divided into quintiles.

By using the assumptions of non parametric techniques used to compare two groups, chi-squared goodness test was used to test the significances in which the socio demographic characteristics of OPD visitors is equivalent to that of sickness reported in health service utilization and expenditure survey. The general assumptions for this technique were the samples should be random and each person or case can be counted only once, they cannot appear in more than one category or group, and the data from one subject cannot influence the data from another (32).

#### **4.10. Data quality assurance and management**

The tools were adopted from EDHS 2016 and previous Kenyan Research which is based upon the objective of this study (28). During the development of the tool, a careful correction and revision were done and all important variables were included. Training of data collectors was performed prior to data collection. There was a regular supervision of data collector. The questionnaire was pretested in Yeka, woreda 2 health center which is other than the study site. A 5% of sample size was used in pre-testing the questionnaire in order to know the appropriateness of the time needed to complete the questions; whether the question achieved the desired result; whether it is in best order; whether it is understood by all classes and whether additional/specifying questions are needed. The collected data was not included in the actual study. The data was checked manually for completeness and missing value each day. During entry of data into the Epi data version 3.1, there was assurance that all data entered correctly and there was data cleaning and editing to check for unexpected values, outliers and errors by summarizing the variables using Stata/SE 14.0.

#### **4.11. Ethical consideration**

Approval was obtained from college of health science, school of public health, AAU and Addis Ababa Regional Health Bureau. Permission was obtained from the selected health center. Oral informed consent was obtained from study participants. This study made sure there was an appropriate method of the study and equitable selection of subjects. There was an explanation for the study participants concerning the nature of the study and possible implication. Confidentiality regarding participants' information kept at all times. The rights of individuals to refuse to answer was respected and there was no a need to coerce and deceit the individual at any

cost. Care was exercised in each situation under specified circumstances. Feedback of the result will be given to the Addis Ababa regional Health Bureau so the community will be benefited from the actions which will be taken based on this and other findings.

#### **4.12. Dissemination plan**

The findings of this study will be submitted to School of public health, Addis Ababa University and Addis Ababa Regional health Bureau. Effort will be made to present the result on different national conferences. As well as, publication in scientific Journal will be considered in advance.

## 5. Results

### 5.1. Description of demographic and socio economic characteristics of study participants

From the sampled 466 outpatient service patients in selected health centers, a total of 457 participated in the study with response rate of 98.07%. Mean (SD) of age of respondents was 34.5 (16.4), 0.8 – 81. There were 296 (64.8%) females and 161 (35.2%) males' respondent. There were 306 (67%) Orthodox Christian, Muslim 97 (21.2%) and Protestant 48 (10.5%) respondents.

**Table 1 – Demographic characteristics of study participants, health centers in Addis Ababa, Ethiopia, 2018**

Variables	Participants (n = 457)	
	N	%
Age of participants in years *		
Mean (SD), range	34.5 (16.4), 0.8 - 81 years	
Sex of participants		
Male	161	35.2
Female	296	64.8
Total	457	100
Marital status		
Married	238	52.1
Unmarried	171	37.4
Divorced	16	3.5
Widowed	32	7
Total	457	100
Religion		
Orthodox	306	67
Protestant	48	10.5
Catholic	4	0.9
Muslim	97	21.2
Other	2	0.4
Total	457	100

\*continuous variable

One hundred thirty (28.4%) respondents were private employee followed by government employee 86 (18.8%) and housewives 77 (16.8%). The mean monthly household income was 3942.7 (range 300 to 40,000).

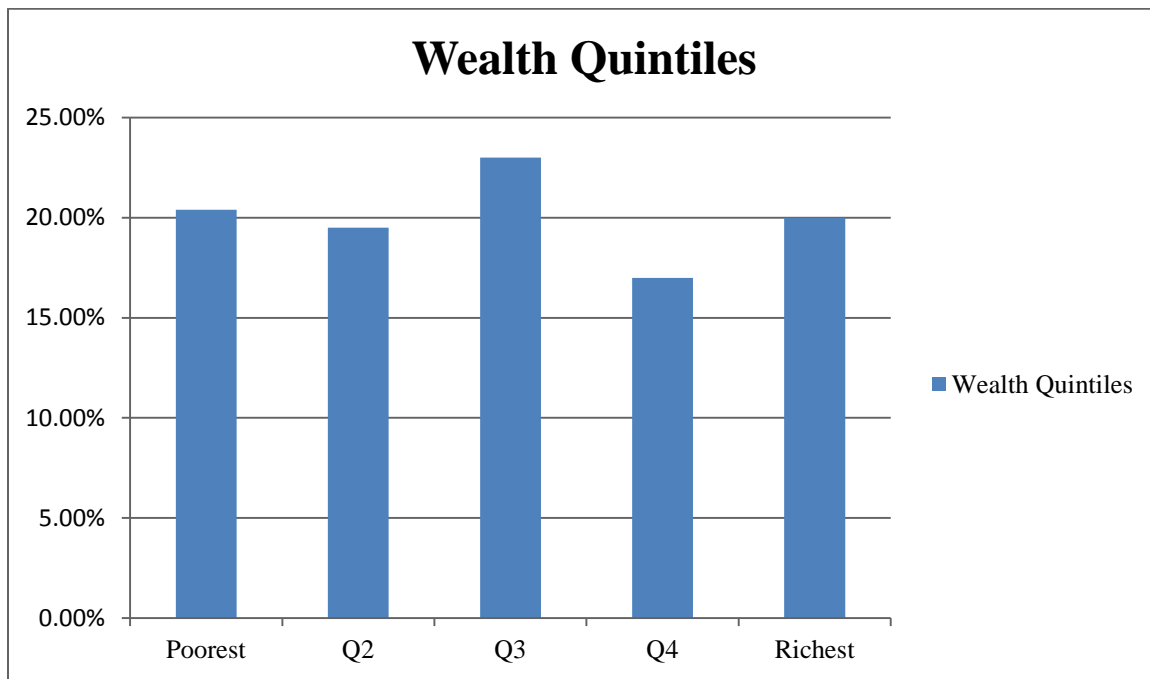
**Table 2 – Socio economic status of study participants, health centers in Addis Ababa, Ethiopia, 2018**

Variables	Participants (n = 457)	
	N	%
Educational status		
No formal education	67	14.7
Primary education	102	22.4
High school	103	22.6
Post high school study	104	22.7
Higher education	81	17.8
Total	457	100
Occupation		
Government employee	86	18.8
Private employee	130	28.4
Merchant	42	9.2
Student	48	10.5
Child under school age	21	4.6
Housewives	77	16.8
Other	53	11.6
Total	457	100
Monthly household income (in Birr) *		
Mean (SD), range	3942.7 (3277.2), 300 – 40,000	
First quintile - ≤ 2000	118	26.6
Second quintile - 2000 - 3000	105	23.6
Third quintile - 3000 - 4000	90	20.3
Fourth quintile - 4000 - 5000	57	12.8
Fifth quintile - > 5000	74	16.7
Total	444	100

\*continuous variable

### Wealth score

The Kaiser Meyer-Olkin value was 0.845, exceeding the recommended value of 0.5 and Bartlett's Test of Sphericity reached statistical significance, supporting the factorability of the correlation matrix. Principal components analysis revealed the presence of nine components with eigenvalues exceeding 1, explaining 19.89%, 9.78%, 6.14%, 4.7%, 4.4%, 4.15%, 3.55%, 3.52%, and 3.39% of the variance respectively. The factor scores are summed to compute the composite index and the respondents are divided into quintiles as shown in figure 3 below.



**Figure 3; wealth quintiles of study participants, health centers in Addis Ababa, Ethiopia, 2018**

### Information on the status of respondents visit to the health center

From the total of 457 participants, 128 (28%) were new to the health centers. 431 (94.3%) participants visited the health center to get treatment and the rest of participants was for checkup 12 (2.6%) and to get medical certificate 14 (3.1%).

**Table 3; information on the status of respondents visit to the health center, Health centers in Addis Ababa, Ethiopia, 2018**

Variables	Participants (n = 457)	
	N	%
First time visit to the health center		
Yes	128	28
No	329	72
Total	457	100
Reason for visit the health center		
Treatment	431	94.3
Checkup	12	2.6
Medical certificate	14	3.1
Total	457	100
Reason for choosing the health center		
Near by	292	63.9
Low cost	39	8.5
Good service	75	16.4
Referral	21	4.6
Told by someone	12	2.6
other	18	3.9
Total	457	100
Visit to health center in the past 3 month		
Yes	77	70.6
No	32	29.4
Total	109	100

## **5.2. Determination of equity gaps by comparison with general population reported sickness in National Health Service utilization and expenditure survey report**

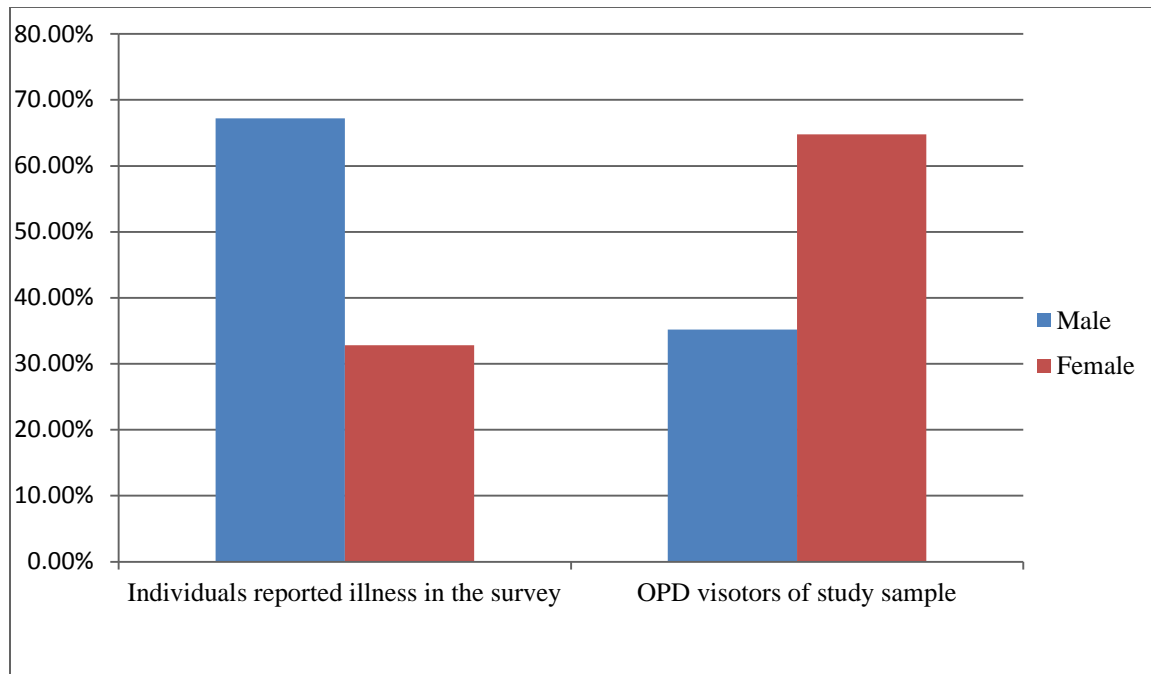
To assess equity, data of OPD visitors of the study sample were compared with individuals reported illness in health service utilization and expenditure survey 2017. The socio demographic variables used to compare in this study were gender, educational status, employment status and wealth status.

For easier comparison, the number of individuals who reported sickness in the survey changed to proportion. Distribution of socio demographic profiles would be equal among those individuals who reported sickness and OPD visitors of the study sample, if there were no inequity.

The prevalence of illness reported in the survey and OPD visitors in the sampled study varied between male and female populations, educational statuses, employment statuses and wealth quintiles. Results from survey report 1992 (19.96% ) individuals reported being ill in the four weeks preceding the survey (31).

### **Comparison by gender**

Self-reported illness in the survey was higher among males (67.2%) than females (32.8%). A chi-square goodness of fit test indicates there was significant difference in the proportion of male visitors identified in the current sample (35.2%) as compared with the value of that was obtained in self-reported illness in the survey  $\chi^2 (1, n = 457) = 211.917, (p < 0.000)$ .

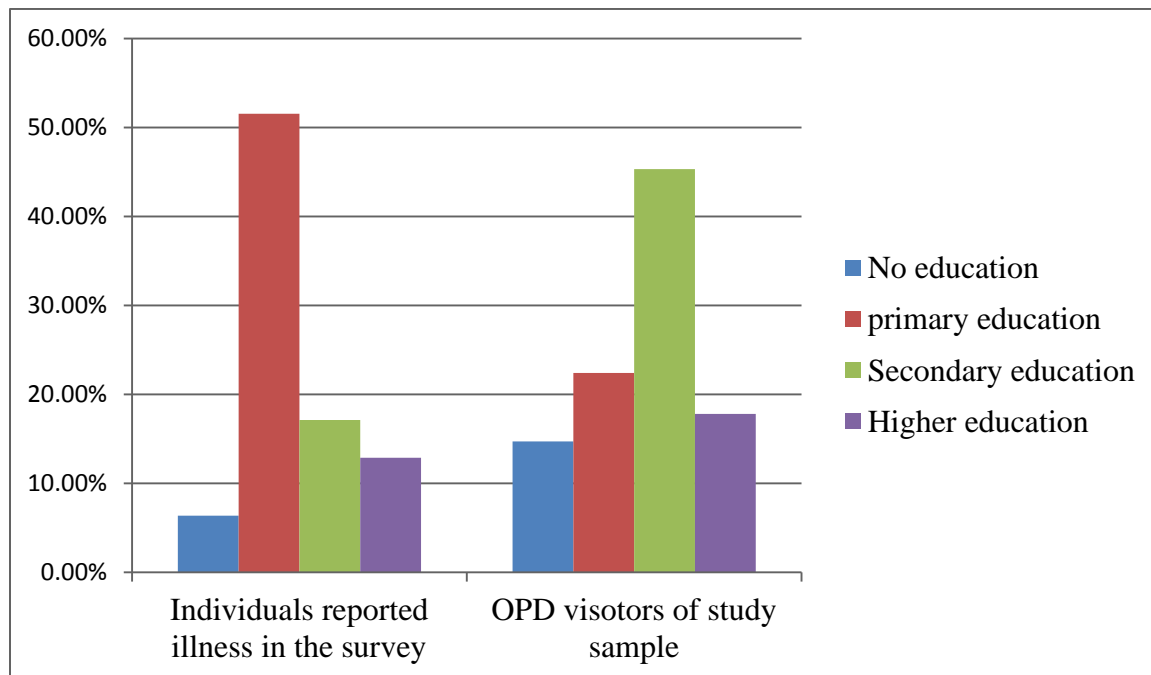


**Figure 4; comparison of individuals who reported illness in the survey and OPD visitors of study sample by sex**

As shown in figure 4 more male populations reported illness compared to female populations but they visited health center less as compared to female individuals. So this indicate that being male might be one of the factors to contribute for less utilization of health center. In the other way, female individuals who reported illness are less in number than males in the survey but there are more female populations in OPD visitors. This might be due to females are less in reporting that they were sick or due to the time variation between the national survey and the current sample.

### Comparison by educational status

A chi-square goodness of fit test indicates there was significant difference between educational background on the status from having no education to higher educational status in the current sample as compared with the value that was obtained in self-reported illness in the survey,  $\chi^2 (3, n = 457) = 297.2, (p < 0.000)$ .

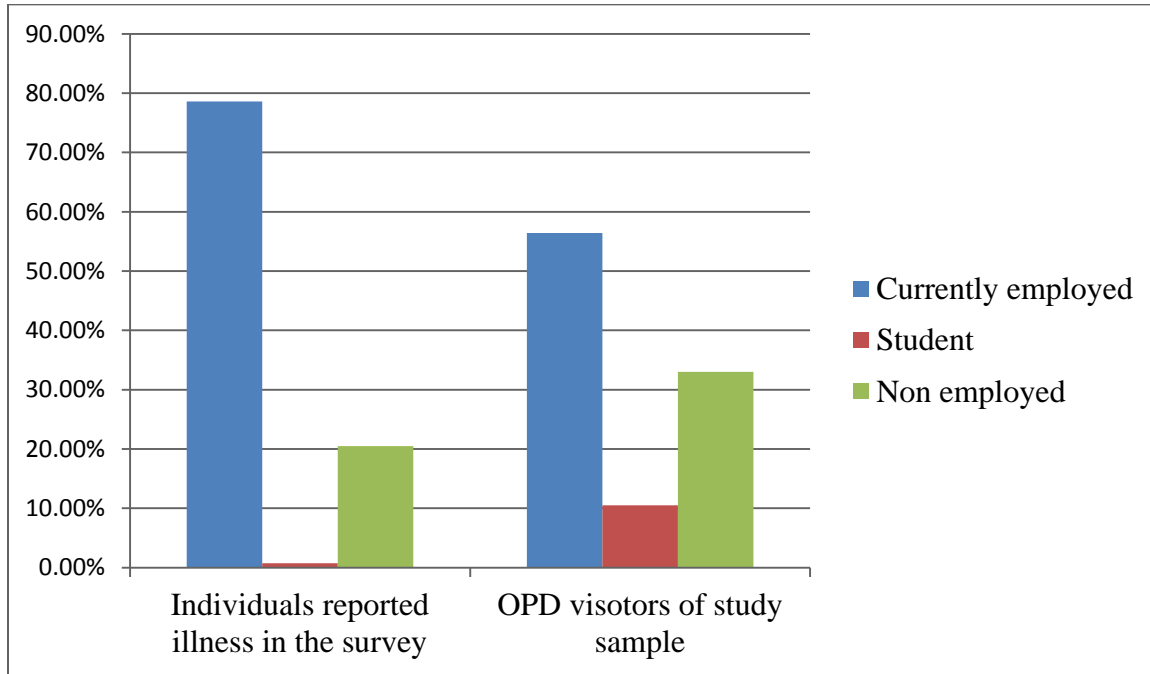


**Figure 5; comparison of individuals who reported illness in the survey and OPD visitors of study sample by educational status**

Regarding educational status individuals who had primary education reported illness higher than the other educational status but they were poor in visiting health centers as compared to individuals who had secondary education which was the highest of all in visiting health centers. This indicated that having a status of primary education has more effect for under utilization of health center.

### Comparison by employment status

A chi-square goodness of fit test indicates there was significant differences between currently employed, nonemployee individuals and students in the current sample as compared with the value that was obtained in self-reported illness in the survey,  $\chi^2 (2, n = 457) = 642.4, (p < 0.000)$ .

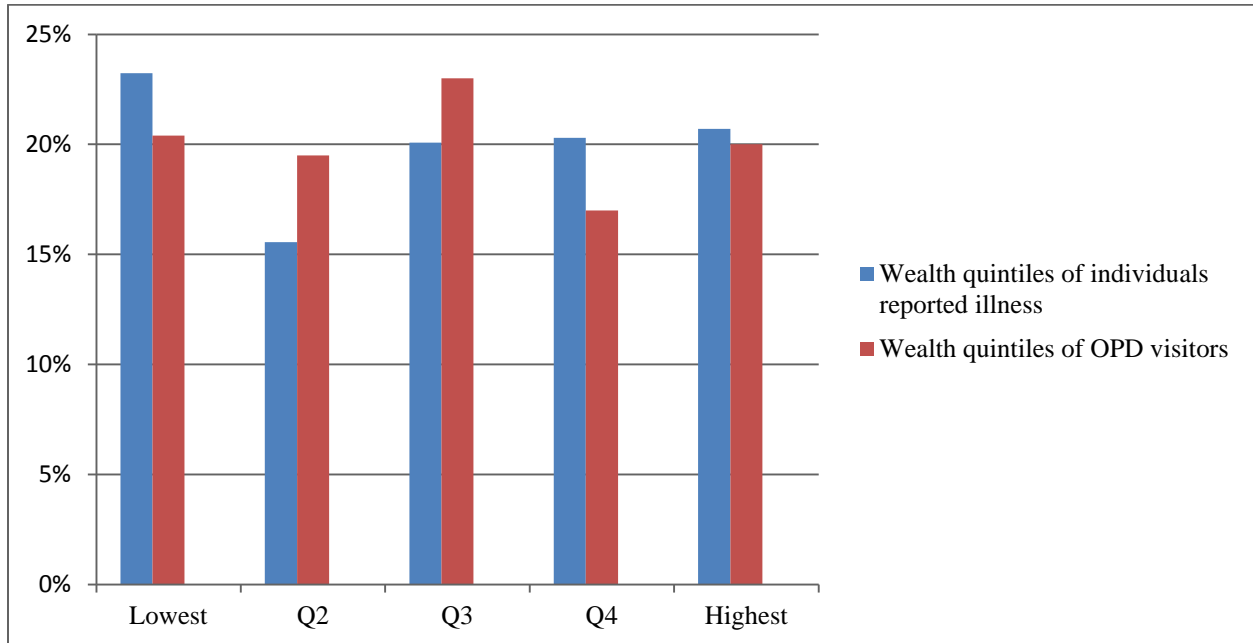


**Figure 6; comparison of individuals who reported illness in the survey and OPD visitors of study sample by employment status**

Individuals who were currently employed were relatively higher than students and nonemployee individuals in reporting illness but less in visiting health centers. So being employed contributed for the less utilization of health centers.

### Comparison by wealth status

A chi-square goodness of fit test indicates there was significant differences on the score from lowest to highest wealth quintiles in the current sample as compared with the value that was obtained in self-reported illness in the survey,  $\chi^2(4, n = 457) = 10.46, (p < 0.033)$ .



**Figure 7; Comparison of individuals reported illness in the survey and OPD visitors of study sample by wealth status**

As shown in figure 8 there was a gap in reporting illness and visiting health centers across wealth quintiles levels except with that of highest wealth quintiles individuals which had only 1% difference between the two groups. Individuals in the lowest wealth quintile and 4<sup>th</sup> wealth quintile are highest in reporting illness but they are less in visiting health centers. Relatively individuals in 3<sup>rd</sup> wealth quintile are the highest in visiting health centers. In this case having lowest and 4<sup>th</sup> wealth status affects lower utilization of health center. This could be taken in two

ways. The one reason could be they might have less awareness of utilization and the other could be they might visit other health facilities other than health centers.

## **6. Discussion**

A facility based cross sectional study was conducted on randomly selected study participants who utilized outpatient service in HCs of Addis Ababa. Findings about the gaps of socio demographic profiles between individuals reported illness in general population and individuals utilized health services is important in improving equity in health care system. In this study equity was assessed by comparing the illness reported individuals in National Health Service utilization survey with individuals who visited outpatient HCs.

### **6.1. Determining equity gaps by demographic and socio economic characteristics**

In this study more male populations reported illness compared to female populations but they visited health center less as compared to female individuals. So this indicate that being male might be one of the factors for less utilization of health service.

Similarly, a study done in Denmark also showed gender contributes markedly to inequality (12). A study done in Brazil showed males were less likely to report utilization (13). Higher odds of reported seeking health-care were associated with being female in Ethiopia and South Africa studies (10, 16). But utilization of both outpatient and inpatient services in general population of Afghanistan were higher among males compared to females for both inpatient and outpatient care (6). There were also a slightly larger proportion of male patients compared to female in China except that in inpatient more females was admitted to hospital (15). There was no significant difference in inpatient care utilization between male and female utilization in other study of China (14).

The variation between OPD visitors of the study sample, the comparison group and other studies might be due to seasonal variation in utilizing or other socio demographic factors that affect utilization of health care in addition to being female or male.

Regarding educational status this study found that having a status of primary education has more effect for under utilization of health service than having no education and higher education. Stronger association was seen when ranking according to education in Denmark (12). Those with no schooling or incomplete primary schooling also contribute to inequality in Brazil (13). The findings in maternal health service specify that the women's and their husbands' education was significantly associated with utilization (11, 18).

This was opposite to Afghanistan study which was households with some education had statistically significant with higher utilization of services compared to with no education for both outpatient and inpatient care in all settings except for public facilities for outpatient care where there was a similar trend but not a significant difference (6). Educational level is negatively associated with FHC visits in Mongolia (17). No association was found between education and outpatient care utilization in China (14). The studies supported that educational level is important in deciding whether to utilize health facilities or not at individual level and also affects family member.

In this study being employed contributed for the less utilization of health centers. This was similar with South Africa study in which lower odds of reported health-care utilization were associated with being employed compared to being unemployed (16). Husband occupation was one of the factors associated with ANC utilization in Tigray (9). These results showed being

employed affects the decision of health care utilization individually and also affects health care utilization of other family member but not in the situation of South Africa and current study which might be due to other socio economic variables. The other reason could be employee individuals might give less concern for their health than unemployed or they might not have time to visit health facilities because of their work.

In this study there was a gap in reporting illness and less in visiting health centers across wealth quintiles levels except with that of highest wealth quintiles individuals which had only 1% difference between the two groups. Individuals in the lowest and 4<sup>th</sup> wealth quintile are highest in reporting illness but they are less in visiting health centers. Relatively individuals in 3<sup>rd</sup> wealth quintile are the highest in visiting health centers. Being in the lowest and 4<sup>th</sup> wealth status has an effect on lower utilization of health centers.

In the general population in Afghanistan, the poorest households had the least utilization of outpatient and inpatient care compared to the wealthiest households (6). A study in Bangladesh also found statically significant level became stronger with higher wealth quintiles in maternal health care services (18). Another study done on older people with cardiovascular disease in China, Rich patients used more outpatient service than poorer (14).

A study focused on Sub-Saharan countries including Ethiopia, Uganda and Tanzania showed, 66% of women who delivered at hospital belonged to the richest wealth group while only 2% belonged to the poorest wealth group in WGW (Wolisso, Goro and Wonchi, Ethiopia) districts. In the same districts, 40% of those who delivered at HCs belonged to the richest group while 7% belonged to the poorest group. Overall, the poorest population group was strikingly under presented across the districts (19). A study which showed the characteristics of women utilizing

EmOC at Wolisso hospital compared with women in general population in the Ethiopia DHS 2011 suggesting that users of EmOC had higher wealth scores than did women in the general population (20). No association was found between household wealth status and inpatient service utilization (14).

Those results might indicate wealth status is the main reason for deciding to utilize health services compared to other socio economic status indicators. But the variation between this study and the other studies might be due to the different standard usage of proxy wealth variables and the difference in study settings.

## **6.2. Strength and limitation of the study**

### **Strength**

- Since this study applied the national socio economic status index, this will make the socio economic quintiles representative
- Used facility based study in combine with household secondary data which could be used to trace equity gaps in general population
- Used the wealth variable as socio economic status indicator which is the appropriate way of measurement than income because direct measure of socio economic status is difficult

### **Limitations**

- It could give a better result if more health centers were included and also it would have a better comparison, if the study includes household sickness report survey within the same catchment area which the study was performed at the same period of time in order to

identify the actual gaps between demand and supply for health care services and their determinant factors.

- Temporal relationship could not be done because the study used secondary data as reference population.

### **6.3. Conclusions and recommendations**

#### **6.3.1. Conclusions**

Findings in this study showed there was unequal distribution regarding sex, educational status, employment status and wealth status of OPD visitors of the study sample and those individuals reported illness in the survey. Being male, having primary educational status, being employed and having lowest and 4<sup>th</sup> wealth status are the factors contributed to inequity in OPD service utilization.

#### **6.3.2. Recommendations**

##### **For Addis Ababa Health Bureau**

- The Bureau should consider incorporating socio economic status in client health information in the patient card format
- The Bureau should consider performing exit poll survey on routine base to identify the gaps in different period of time

##### **For Federal Ministry of Health**

- The Ministry should make the primary health care facilities competitive enough with private health facilities by increasing the quality of the services
- The Ministry should consider including other socio economic status indicator in the sickness report survey for further comparison

**For general population**

- The population should be promoted to utilize primary health care facilities

**For researchers**

- Further research should be performed that incorporate many facilities including private health care facilities and different level of care
- Further research should be performed on rural community and different regions health facilities for further comparison using health survey data
- Further research should be performed using mixed method

## 7. References

1. FMOH. Health Sector Transformation Plan. Federal Democratic Republic of Ethiopia, Ministry of health; 2015.
2. WHO U-H. Global Report on Urban health; equitable, healthier cities for sustainable development. World Health Organization, UN-Habitat, 2016.
3. WHO. The World Health Report: research for universal health coverage. World Health Organization, 2013.
4. FMOH. Transforming Health status and Health systems in developing Regional states and selected zones with sub optimal performance, Equitable health services for all, Plan of Action 2020. Federal Democratic republic of Ethiopia, Ministry of health; 2016.
5. Collins Gyavira Rubanju A. Public health crisis? Analysis of equity of access and utilization of health services in Uganda: University of Oslo; 2014.
6. Kim C, Saeed KM, Salehi AS, Zeng W. An equity analysis of utilization of health services in Afghanistan using a national household survey. *BMC public health*. 2016;16(1):1226.
7. Bobo FT, Yesuf EA, Woldie M. Inequities in utilization of reproductive and maternal health services in Ethiopia. *International journal for equity in health*. 2017;16(1):105.
8. Begashaw B, Tessema F, Abrha Gesesew H. Health Care Seeking Behavior in Southwest Ethiopia. *pone*. 2016.
9. Tsegay Y, Gebrehiwot T, Goicolea I, Edin K, Lemma H, Sebastian MS. Determinants of antenatal and delivery care utilization in Tigray region, Ethiopia: a cross-sectional study. *International journal for equity in health*. 2013;12:30.
10. Walle Bazie G, Teshome Adimassie M. Modern health services utilization and associated factors in North East Ethiopia. 2017.
11. Aliy J, Haile Mariam D. Determinants of equity in utilization of maternal health services in Butajira, Southern Ethiopia. *Ethiopia J Health Dev*. 2012.
12. Sortso C, Lauridsen J, Emneus M, Green A, Jensen PB. Socioeconomic inequality of diabetes patients' health care utilization in Denmark. *Health economics review*. 2017;7(1):21.
13. Boccolini CS, de Souza Junior PR. Inequities in Healthcare utilization: results of the Brazilian National Health Survey, 2013. *International journal for equity in health*. 2016;15(1):150.

14. Dou L, Liu X, Zhang T, Wu Y. Health care utilization in older people with cardiovascular disease in China. *International journal for equity in health*. 2015;14:59.
15. Song Y, Bian Y. Gender differences in the use of health care in China: cross-sectional analysis. *International journal for equity in health*. 2014;13:8.
16. Abera Abaerei A, Ncayiyana J, Levin J. Health-care utilization and associated factors in Gauteng province, South Africa. 2017;10, 1305765.
17. Dorjdagva J, Batbaatar E, Svensson M, Dorjsuren B, Batmunkh B, Kauhanen J. Free and universal, but unequal utilization of primary health care in the rural and urban areas of Mongolia. *International journal for equity in health*. 2017;16(1):73.
18. Pulok MH, Sabah MN, Uddin J, Enemark U. Progress in the utilization of antenatal and delivery care services in Bangladesh: where does the equity gap lie? *BMC pregnancy and childbirth*. 2016;16(1):200.
19. Wilunda C, Putoto G, Dalla Riva D, Manenti F, Atzori A, Calia F, et al. Assessing coverage, equity and quality gaps in maternal and neonatal care in sub-saharan Africa: an integrated approach. *PloS one*. 2015;10(5):e0127827.
20. Wilunda C, Putoto G, Manenti F, Castiglioni M, Azzimonti G, Edessa W, et al. Measuring equity in utilization of emergency obstetric care at Wolisso Hospital in Oromiya, Ethiopia: a cross sectional study. *Int J Equity health*. 2013.
21. Abasolo I, Saez M, Lopez-Casasnovas G. Financial crisis and income-related inequalities in the universal provision of a public service: the case of healthcare in Spain. *International journal for equity in health*. 2017;16(1):134.
22. Glorioso V, Subramanian SV. Equity in access to health care services in Italy. *Health services research*. 2014;49(3):950-70.
23. Zhang X, Wu Q, Shao Y, Fu W, Liu G, Coyte PC. Socioeconomic inequities in health care utilization in China. *Asia-Pacific journal of public health*. 2015;27(4):429-38.
24. Olayinka Lawanson A, Sekinat Opeloyeru O. Inequity in Healthcare Utilization: Analysis of the Nigeria Situation. *International Journal of Business and Social Science*. 2016;7:223.
25. Phiri J, Ataguba John E. Inequalities in Public health care delivery in Zambia. *Int J Equity health*. 2014.
26. Mahapatro M. Equity in utilization of health care services: Perspective of pregnant women in southern Odisha, India. *The Indian journal of medical research*. 2015;142(2):183-9.

27. Park JM. Equity in the utilization of physician and inpatient hospital services: evidence from Korean health panel survey. *International journal for equity in health*. 2016;15(1):159.
28. Prosser T. *Utilization of Health and Medical Services: Factors Influencing Health Care Seeking Behaviour and Unmet Health Needs in Rural Areas of Kenya*: Edith Cowan University 2007.
29. Hosseinpoor AR BN, Koller T, Prasad A, Schlotheuber A, et, al. Equity-Oriented Monitoring in the Context of Universal Health Coverage. *PLoS medicine*. 2014;11(9).
30. Mangham L. *ACT Consortium Guidance on Health Equity Analysis*. 2009.
31. FMOH. *Ethiopian Health Accounts Household Health Service Utilization and Expenditure Survey*. Federal Democratic Republic of Ethiopia Ministry of Health; 2017.
32. Pallant J. *SPSS survival manual A step by step guide to data analysis using SPSS*. 4th edition ed: McGraw Hill; 2010.

## **Annexes**

### **Informed consent (English form)**

#### **Participants' information sheet**

Hello, my name is\_\_\_\_\_ I am here on behalf of Mihret kassahun, student of Addis Ababa University, School of Public health. She is conducting a research on determinants of equity in outpatient service utilization. She received permission from Addis Ababa University and Addis Ababa Health Bureau.

You are selected in this study because you are currently utilizing one of the selected health centers. This study needs information regarding the socio demographic characteristics and utilization of health services and for that purpose, there is a prepared questionnaires. Your participation is based on your willingness. The interview will take 10 – 15 minutes and I hope there is no question that will make you discomfort but if there is any discomfort while I am asking you, you can stop me at any time and you have the right to refuse to answer any question. If you agree to participate, I will ask you about socio-demographic and utilization status. The study could be used as input for decision-makers to plan and implement programs on health services utilization in health center. I assure you that the conversation between me and you is maintained confidential and this data will be used for Academic purpose only. Your participation is very important for the success of this study.

#### **Informed consent**

Based on the understanding of the above information, are you willing if I proceed to the questionnaires \_\_\_\_Yes \_\_\_\_No

If yes, proceed to the questionnaire

If no, thank the person for listening politely and go to the next participant after writing the reason of refusal.

For further information regarding the study principal investigator address

Name –Mihret Kassahun

Cell phone – 0913583494

E-mail address -[mercykassahunmk@gmail.com](mailto:mercykassahunmk@gmail.com).

### Data collection tool (English version)

Survey questionnaires to assess determinants of equity in outpatient service utilization in health center, Addis Ababa University, School of Public Health

Questionnaire ID number	
Name of Health center	
Date of interview	___/DD/___/MM/_____Yr
Time started	___/Hr/___/Min/
Time ended	___/Hr/___/Min/
Interviewer	Name _____ Signature _____
Result of interview	A) Completed B) Not completed C) Partially completed D) Refused
Checked by supervisor	Name _____ Signature _____

### Part 1- Demographic information

If age is less than 18, ask the parent or guardian

No	Questions	Responses	Skip
101	Age of respondent		
102	Sex of the respondent	1. Male 2. Female	
103	How long have you lived in this district?		
104	How much is your household family size including you?		
105	Marital status	1. Unmarried 2. Married 3. Divorced	

		4. Widowed 5. Other, specify_____	
106	What is your religion?	1. Orthodox Christian 2. Catholic Christian 3. Protestant Christian 4. Muslim 5. Other, Specify_____	
107	Mode of transport to get to this health center	1. Foot 2. Bajaj 3. Public vehicle 4. Private car 5. Other, specify_____	
108	How long does it take you to get to this facility?		

**Part 2 – Socio-economic information**

No	Questions	Responses	Skip
201	Educational attainment	1. No formal education 2. Primary education (grade 1-8) 3. High school (grade 9-10) 4. Post high school study 5. Higher education 6. Other, specify_____	
202	Employment status	1. Currently employed 2. Not currently employed 3. Self employed 4. Other, specify_____	
203	Occupation	1. Government employee	

		2. Private employee 3. Merchant 4. Student 5. Child under school age 6. Other, specify_____	
--	--	---	--

In this part of this section, I will ask you about the total income for the household in the last 12 months (previous to today) from paid work or other sources of income. I know it may be difficult to calculate that figure, but please do try to give as accurate an amount as possible.

204.1	Does your household have a regular source of income?  <i>Interviewer: Regular income over the last 12 months, meaning that the household can depend on a source to provide an income at intervals that can be used to base household budget decisions.</i>	1. Yes, regular source 2. Yes, regular but seasonal 3. No
-------	--	---

I am now going to read you a list of possible sources of income. Thinking over the last 12 months, can you tell me what the average earnings of the household have been per week or per month or per year? Please tell me whichever time period that is easier for you.

204.2	Please tell me from which of these sources members of your household receive income:	<b>A.</b> If Yes, → Column B  If no → go to next Question	<b>B.</b> Can you estimate an approximate total amount of income for the household over the last [week/month/year- time period circled in Column A]?
	a. Wages, salary from job? If yes, please estimate an approximate total amount of income for the household in column "B"	1 YES, WEEKLY 2 YES, MONTHLY 3 YES, YEARLY 4 No → Q b 5 DK	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 5 DON'T KNOW

		6 REFUSED	
	b. Earnings from selling, trading or hawking products? If yes, please estimate an approximate total amount of income for the household in column B	1 YES, WEEKLY 2 YES, MONTHLY 3 YES, YEARLY 4 No → Q c 5 DK  5 REFUSED	□□□□□□
	c. Income from rental of property? If yes, please estimate an approximate total amount of income for the household in column B	1 YES, WEEKLY 2 YES, MONTHLY 3 YES, YEARLY 4 No → Q d 5 DK  5 REFUSED	□□□□□□
	d. State old-age (veteran's/civil service) pension contributory pension fund, provident fund or social security benefit?	1 YES, WEEKLY 2 YES, MONTHLY 3 YES, YEARLY 4 No → Q e 5 DK  5 REFUSED	□□□□□□
	e. Interest, dividends (for example, from savings account or fixed deposits)?	1 YES, WEEKLY 2 YES, MONTHLY 3 YES, YEARLY 4 No → Q f 5 DK  5 REFUSED	□□□□□□
	f. Other (specify):		□□□□□□

	_____	1 YES, WEEKLY 2 YES, MONTHLY 3 YES, YEARLY 4 No → Q 117	
204.3	So to verify this information, your approximate total household income from ALL sources over the last 12 months is about how much?		□□□□□□□□

### Wealth index

The next questions ask about household assets, services and housing conditions			
1. Household assets & services – In answering the questions below please think of assets & services available in your household			
205	Electricity	1. Yes 2. No	
206	Watch/clock	1. Yes 2. No	
207	Television	1. Yes 2. No	
208	Radio/tape recorder/stereo system	1. Yes 2. No	
209	Mobile telephone	1. Yes 2. No	
210	Non-mobile/fixed telephone	1. Yes 2. No	
211	Computer	1. Yes 2. No	
212	Internet service	1. Yes 2. No	
213	Refrigerator	1. Yes 2. No	
214	Table	1. Yes 2. No	
215	Chair	1. Yes 2. No	
216	Bed with cotton/sponge/spring mattress	1. Yes 2. No	
217	Electric mitad	1. Yes 2. No	
218	Kerosene lamp/pressure lamp	1. Yes 2. No	
219	Laundry machine	1. Yes 2. No	

220	Kitchen materials washer machine	1. Yes 2. No	
221	Sofa	1. Yes 2. No	
222	Bicycle	1. Yes 2. No	
223	Motor cycle/scooter	1. Yes 2. No	
224	Animal-drawn cart	1. Yes 2. No	
225	Car or track	1. Yes 2. No	
226	Is there any security system (emergency alerts, security guards)?	1. Yes 2. No	
227	Separate room used as kitchen	1. Yes 2. No	
228	Is there any kitchen sewage system that is built-in with your home?	1. Yes 2. No	
229	Hot running water	1. Yes 2. No	
230	Are there any paid domestic servants (Gardner, house servant, house keeper, driver)?	1. Yes 2. No	
231	Additional (second) house	1. Yes 2. No	
232	Bank account	1. Yes 2. No	
233	Own land usable for agriculture	1. Yes 2. No	
234	If yes, hectares for agricultural land	1. More than 95 2. Unknown	
235	Livestock, herds or farm animals	1. Yes 2. No	
	a. Cattle	1. None 2. 95 or more 3. Unknown	
	b. Horses/donkey/mules	1. None 2. 95 or more 3. Unknown	
	c. Camels	1. None 2. 95 or more 3. Unknown	
	d. Goats	1. None 2. 95 or more 3. Unknown	
	e. Sheep	1. None 2. 95 or more 3. Unknown	
	f. Chickens	1. None 2. 95 or more 3. Unknown	

		Unknown	
	g. Beehives	1. None 2. 95 or more 3. Unknown	

2. Housing Condition – please answer the following questions thinking about the housing condition of your household			
236	Home ownership	1. Private 2. Government 3. Rent 4. Other (specify)_____	
237	Number of rooms used for sleeping		
238	Sources of drinking water	1. Piped - into dwelling 2. Piped - into yard/plot 3. Piped - public tap / standpipe 4. Borehole 5. Dug well - protected 6. Dug well - unprotected 7. Spring - protected 8. Spring - unprotected 9. Rainwater 10. Tanker truck 11. Cart with small tank 12. Surface water (river/dam/lake/pond/stream/canal/irrigation channel) 13. Bottled water 14. Other	
239	Sources of non drinking water	1. Piped - into dwelling 2. Piped - into yard/plot 3. Piped - public tap / standpipe 4. Borehole	

		<ol style="list-style-type: none"> <li>5. Dug well - protected</li> <li>6. Dug well - unprotected</li> <li>7. Spring - protected</li> <li>8. Spring - unprotected</li> <li>9. Rainwater</li> <li>10. Tanker truck</li> <li>11. Cart with small tank</li> <li>12. Surface water (river/dam/lake/pond/stream/canal/irrigation channel"</li> <li>13. Other</li> </ol>	
240	Location of source for water	<ol style="list-style-type: none"> <li>1. In own dwelling</li> <li>2. In own yard/plot</li> <li>3. Elsewhere</li> </ol>	
241	Time to water and back (min)	<ol style="list-style-type: none"> <li>1. On premises</li> <li>2. Don't know</li> </ol>	
242	Person fetching water	<ol style="list-style-type: none"> <li>1. Adult woman</li> <li>2. Adult man</li> <li>3. Female child &lt; 15 years</li> <li>4. Male child &lt; 15 years</li> <li>5. Other</li> </ol>	
243	Do anything to water to make safe to drink	<ol style="list-style-type: none"> <li>1 Yes</li> <li>2. No</li> <li>3. Don't know</li> </ol>	
244	What do usually do to make water safe to drink	<ol style="list-style-type: none"> <li>1. Boil</li> <li>2. Add bleach/chlorine/water guard/pur/bishan gari/aquatabs</li> <li>3. Strain through a cloth</li> <li>4. Use water filter (ceramic/bio sand/composite)</li> <li>5. Solar disinfection</li> <li>6. Let it stand and settle</li> <li>7. Other</li> <li>8. Don't know</li> </ol>	
245	Main roof material	<ol style="list-style-type: none"> <li>1. No roof</li> </ol>	

		<ol style="list-style-type: none"> <li>2. Thatch / palm leaf / mud</li> <li>3. Rustic mat</li> <li>4. Reed / bamboo</li> <li>5. Wood planks</li> <li>6. Cardboard</li> <li>7. Corrugate iron / metal</li> <li>8. Wood</li> <li>9. Asbestos / cement fiber</li> <li>10. Cement / concrete</li> <li>11. Roofing shingles</li> <li>12. Other</li> </ol>	
246	Main wall material	<ol style="list-style-type: none"> <li>1. No walls</li> <li>2. Cane / trunks / bamboo / reed</li> <li>3. Dirt</li> <li>4. Bamboo / wood with mud</li> <li>5. Stone with mud</li> <li>6. Uncovered adobe</li> <li>7. Plywood</li> <li>8. Cardboard</li> <li>9. Reused wood</li> <li>10. Cement</li> <li>11. Stone with lime / cement</li> <li>12. Bricks</li> <li>13. Cement blocks</li> <li>14. Covered adobe</li> <li>15. Wood planks / shingles</li> <li>16. Other</li> </ol>	
247	Main material of floor	<ol style="list-style-type: none"> <li>1. Earth, sand</li> <li>2. Dung</li> <li>3. Wood planks</li> <li>4. Palm, bamboo</li> </ol>	

		<ul style="list-style-type: none"> <li>5. Parquet, polished wood</li> <li>6. Vinyl, asphalt strips</li> <li>7. Ceramic tiles</li> <li>8. Cement</li> <li>9. Carpet</li> <li>10. Other (specify)_____</li> </ul>	
248	Type of toilet facility	<ul style="list-style-type: none"> <li>1. Flush - to piped sewer system</li> <li>2. Flush - to septic tank</li> <li>3. Flush - to pit latrine</li> <li>4. Flush - to somewhere else</li> <li>5. Flush - don't know where</li> <li>6. Pit latrine - ventilated improved pit (VIP)</li> <li>7. Pit latrine - with slab</li> <li>8. Pit latrine - without slab / open pit</li> <li>9. Composting toilet</li> <li>10. Bucket toilet</li> <li>11. Hanging toilet / hanging latrine</li> <li>12. No facility/bush/field</li> <li>13. Other</li> </ul>	
249	Share facilities with other household	<ul style="list-style-type: none"> <li>1. Yes</li> <li>2. No</li> </ul>	
250	Number of household sharing toilet	<ul style="list-style-type: none"> <li>1. 10 or more households</li> <li>2. Don't know</li> </ul>	
251	Type of cooking fuel	<ul style="list-style-type: none"> <li>1. Electricity</li> <li>2. LPG</li> <li>3. Natural gas</li> <li>4. Biogas</li> <li>5. Kerosene</li> <li>6. Charcoal</li> <li>7. Wood</li> <li>8. Straw / shrubs / grass</li> <li>9. Agricultural crop</li> <li>10. Animal dung</li> </ul>	

		11. No food cooked in HH 12. Other	
252	Food cooked	1. In the house 2. In a separate building 3. Outdoors 4. Other	

### Part 3 – Health service utilization information

No	Questions	Responses	Skip
301	Is it your first time visit to this health center?	1. Yes 2. No	
302	If no for question number 301, how often do you visit this health center?		
303	For what reason(s) you visited this health center	1. To get treated my illness 2. Checkup 3. For medical certificate 4. Other, specify_____	
304	If the reason you visited this health center is to get treated your illness, what do you think the name of the illness?		
305	How much you paid for diagnosis, treatment and prescription?	1. Free 2. _____ Birr 3. Other, specify_____	
306	How do you evaluate the service given in here?	1. Very poor 2. Poor 3. Neutral 4. Good 5. Very good	
307	What is/are the reasons you choose this health center?		
308.1	What aspect(s) of care satisfies you the most?		
308.2	What aspect(s) of care dissatisfies you the most?		

308.3	How long on average, do you normally wait before you get health service once you reach here?		
309	Have you been ill in the past 3 months?	1. Yes 2. No	
310	Your answer is yes for question number 309, what do you think the name of the illness?		
311	Did you seek any treatment?	1. Yes 2. No	
312	If yes, where did you seek treatment?	1. Government hospital 2. Health center 3. Private clinic 4. Private hospital 5. Traditional healer 6. Other, specify	
313	Has there been a time when you needed to get treatment but was not able?	1. Yes 2. No	
314	If yes for question number 313, why?		
315	If there is a time to get treatment in the future, will you come to this health center again?	1. Yes 2. No	
316	If no for question number 315, why?		

Are there any comments you would like to make?

\_\_\_\_\_ Thank you

**Informed consent (Amharic form)**

**የተሳታፊዎች የመረጃ ቅጽ**

ጤናይስጥልኝ ስሜ-----ይባላል። እዚህ የመጣሁት የአዲስ አበባ ዩኒቨርሲቲ የህብረተሰብ ጤና ተማሪ የሆነችውን ምህረት ካሳሁንን ወክዬነው። እርሷ የምታጠናው እኩል የሆነ የተመላላሽ ህክምናአገልግሎት አጠቃቀም የሚገልፁ ዋና ዋና ነገሮችን ነው። ይህንን ጥናት እንድታከናውን ከ አዲስ አበባ ዩኒቨርሲቲ እና ከአዲስ አበባ ጤና ቢሮ ፍቃድ አግኝታለች።

እርስዎ በዚህ ጥናት የተመረጡት ለዚህ ጥናት ከተመረጡት ጤና ጣብያዎች በአንዱ ውስጥ ተጠቃሚ ስለሆኑ ነው። ይህ ጥናት ማህበራዊና ኢኮኖሚያዊ እንዲሁም የጤና አገልግሎት አጠቃቀም ዙሪያ ላይ መረጃ ይፈልጋል። የእርስዎ ተሳትፎ በፍቃደኝነት ላይ የተመሰረተ ነው። ቃለ-መጠይቁ የሚወስደው ጊዜ ከ 10 -15 ደቂቃ ሲሆን ምንም ምቹት የማይሰጥ ጥያቄ እንደሌለ ተስፋ አደርጋለሁ። ነገር ግን ምቹት የማይሰጥ ጥያቄ ካለ ማስቆም ይችላሉ። ጥያቄውን አልቀበልም የማለት ሙሉ መብት አለዎት። ለመሳተፍ ፍቃደኛ ከሆኑ ስለ እርስዎ ማህበራዊ፣ ኢኮኖሚያዊ እና የጤና አገልግሎት አጠቃቀም ዙሪያ ላይ እጠይቆታለሁ። ይህ ጥናት በጤና አገልግሎት አጠቃቀም ዙሪያ ላይ ውሳኔ የሚሰጡ አካላት እቅዶችን ለማውጣት እና ለመተግበር እንደ ግብአት ሆኖ ሊያገለግል ይችላል። በእኔ እና በእርስዎ መካከል የሚደረገው ቃለ-ምልልስ ሚስጥራዊነቱ የተጠበቀ መሆኑን አሳውቆታለሁ። እንዲሁም ጥናቱ የሚውለው ለትምህርት ብቻ መሆኑን እገልፀሎታለሁ።በተጨማሪም የእርስዎ ተሳትፎ ለዚህ ጥናት መሳካት ጠቃሚ እንደሆነአሳውቆታለሁ።

**የስምምነት ማረጋገጫ ቅፅ**

ከላይ በተሰጥዎት መረጃ መሰረት ፍቃደኛ ናት ወደ መጠይቁ እንድሄድ--አዎ --አይደለሁም

አዎ ከሆነ መልሱ ወደመጠይቁ መሄድ

አይደለሁም ከሆነ መልሱ ግለሰቡን አመስግኖ እና ፍቃደኛ ያልሆኑበትን ምክንያት ፅሬ ወደሚቀጥለው ተሳታፊ መሄድ

ጥናቱን በተመለከተ ለተጨማሪም መረጃ የጥናቱ ባለቤት አድራሻ  
ስም - ምህረት ካሳሁን  
ስልክ - 0913583494  
ኢ.ሜይል - [mercykassahunmk.mk@gmail.com](mailto:mercykassahunmk.mk@gmail.com).

Data collection tool (Amharic form)

እኩል የሆነ የተመላላሽ ህክምና አገልግሎት አጠቃቀምን ሊገልፁ የሚችሉ ዋና ዋና ነገሮችን ለማጥናት የተዘጋጀ መጠይቅ አዲስ አበባ ዩኒቨርሲቲ የህብረተሰብ ጤና ሳይንስ ክፍል

የመጠይቁ መለያ ቁጥር	
የጤና ጣብያ ስም	
የቃለመጠይቁ ቀን	-----ቀን-----ወር-----ዓ.ም
የቃለመጠይቁ መጀመሪያ ሰዓት	-----ሰዓት-----ደቂቃ
የቃለመጠይቁ መጨረሻ ሰዓት	-----ሰዓት-----ደቂቃ
ቃለመጠይቅ አቅራቢ	ስም----- ፊርማ-----
የቃለመጠይቁ ውጤት	1. የተሟላ 2. ሙሉ በሙሉ ያልተሟላ 3. በከፊል የተሟላ 4. ፈቃደኛ ያልሆነ
የተቆጣጣሪው ማረጋገጫ	ስም----- ፊርማ-----

ዕድሜ ከ 18 ዓመት በታች ለሆኑ አብረው የመጡት ጠባቂ ወይም ቤተሰብ ይጠየቅ

ክፍል 1 ማህበራዊ መረጃ

ቁጥር	ጥያቄ	መልስ	ወደሚቀጥለው ጥያቄ ይሂዱ
101	ዕድሜዎት ስንት ነው?		
102	ፆታ	1. ወንድ 2. ሴት	
103	ለምን ያህል ጊዜ እዚህ አካባቢ ኖረዋል?		
104	በሚኖሩበት ቤት ውስጥ እርስዎን ጨምሮ የቤተሰብ ብዛት ስንት ነው?		

105	የጋብቻ ሁኔታዎች ምን ይመስላል?	<ol style="list-style-type: none"> <li>1. ያላገባ</li> <li>2. ያገባ</li> <li>3. የተፋቱ</li> <li>4. ባል / ሚስት የሞተባቸው</li> <li>5. ሌላ ካለ ይገለጹ----</li> </ol>	
106	ሃይማኖትዎ ምንድነው?	<ol style="list-style-type: none"> <li>1. ኦርቶዶክስ ክርስትና</li> <li>2. ካቶሊክ ክርስትና</li> <li>3. ፕሮቴስታንት ክርስትና</li> <li>4. ሙስሊም</li> <li>5. ሌላ ካለ ይገለጹ</li> </ol>	
107	ወደዚህ ጤና ጣብያ የመጡበት የትራንስፖርት መንገድ	<ol style="list-style-type: none"> <li>1. በእግር</li> <li>2. በባጃጅ</li> <li>3. በህዝብ መጓጓዣ</li> <li>4. በግል መኪና</li> <li>5. ሌላ ካለ ይገለጹ----</li> </ol>	
108	ሲመጡ ምን ያህል ጊዜ ፈጀቦት?		

**ክፍል 2 - ኢኮኖሚያዊ መረጃ**

ቁጥር	ጥያቄ	መልስ	ወደሚቀጥለው ጥያቄ ይሂዱ
201	የትምህርት ሁኔታ	<ol style="list-style-type: none"> <li>1. ምንም አይነት ትምህርት ያልተማሩ</li> <li>2. አንደኛ ደረጃ የተማሩ (1-8)</li> <li>3. የሁለተኛ ደረጃ የተማሩ (9-10)</li> <li>4. ከሁለተኛ ደረጃ በላይ</li> <li>5. ከፍተኛ የትምህርት ደረጃ</li> <li>6. ሌላ ካለ ይገለጹ----</li> </ol>	
202	የስራ ቅጥር ሁኔታ	<ol style="list-style-type: none"> <li>1. በቅጥር ላይ</li> </ol>	

		2. በቅጥርላይያለሆኑ 3. የግል ስራ የሚሰሩ 4. ሌላ ካለ ይገለጹ-----	
203	የስራ ሁኔታ	1. የመንግስት ተቀጣሪ 2. የግል ተቀጣሪ 3. ነጋዴ 4. ተማሪ 5. ከትምህርት ዕድሜ በታች የሆነ ህፃን 6. ሌላ ካለ ይገለጹ	

በሚቀጥለው ጥያቄ ውስጥ በእርስዎ ቤት በባለፈው 12 ወራት ባለው ጊዜ ውስጥ ከስራ ወይም ከሌላ የሚገኝ ጠቅላላ የገቢ ምንጭ እጠይቃለሁ። ቢያስቸግሩትም ስለ ሁሉም የገቢ ምንጭ ትክክለኛ የሆነ ትምን ቢነግሩኝ እወዳለሁ።ይህ መረጃ የእርስዎን የጤና አጠቃቀም ሁኔታ ከሌላው ጋር ለማነፃፀር ስለሚጠቅም ነው።

204.1	በቤትዎ ቋሚ የገቢ ምንጭ አለ ለቃለ መጠይቅ አድራጊው ፣ ቋሚ ገቢ ማለት ባለፉት 12 ወራት ቤተሰቡ በተወሰነ የጊዜ ልዩነት የሚያገኘው መደበኛ የገቢ ምንጭ ማለት ነው።	1. አዎ ቋሚ የገቢ ምንጭ 2. አዎ ቋሚ ሆኖ ወቅታዊ የሆነ 3. የለም
-------	--	---

አሁን ደግሞ የገቢ ምንጮች ይሆናሉ ተብለው የሚታሰቡትን ዝርዝር አነሳሎታለሁ። የባለፈው 12 ወራት በማሰብ ለእርስዎ በሚመችዎት ሁኔታ አማካይ ገቢ በሳምንት ወይም በወር ወይም በአመት ይነግሩኛል።

204.2	በባለፉት 12 ወራት እባክዎትን የቤትዎ የገቢ ምንጭ ከየትኛው እንደሆነ ይግለጹ	ሀ መልስዎ አዎ ከሆነ ወደ ረድፍ ለ ይሂዱ መልስዎ አልነግርም ከሆነ ወደ ሚቀጥለው ጥያቄ ይሂዱ	ለ አጠቃላይ ገቢዎትን መገመት ከቻሉ በሳምንት፣ በወር ወይም በዓመት በረድፍ ሀ
-------	--	---	---

			በተከበበው መሰረት ይገነዘብ
	ሀ. የአገልግሎት ክፍያ ደግሞ የሚገኝ ገቢ	<ol style="list-style-type: none"> <li>1. አዎ በሳምንት</li> <li>2. አዎ በወር</li> <li>3. አዎ በአመት</li> <li>4. የለም ከሆነ ወደ ጥያቄ ለ ይሂዱ</li> <li>5. አላውቀውም</li> <li>6. ፍቃደኛ አይደለሁም</li> </ol>	□□□□□□
	ለ. . ከዕቃ ሽያጭ፣ ከንግድ፣ የተለያዩ ምርቶችን በማቅረብ የሚገኝ ገቢ	<ol style="list-style-type: none"> <li>1. አዎ በሳምንት</li> <li>2. አዎ በወር</li> <li>3. አዎ በአመት</li> <li>4. የለም ከሆነ ወደ ጥያቄ ለ ይሂዱ</li> <li>5. አላውቀውም</li> <li>6. ፍቃደኛ አይደለሁም</li> </ol>	□□□□□□
	ሐ. የተለያዩ ንብረቶችን በማከራየት የሚገኝ ገቢ	<ol style="list-style-type: none"> <li>1. አዎ በሳምንት</li> <li>2. አዎ በወር</li> <li>3. አዎ በአመት</li> <li>4. የለም ከሆነ ወደ ጥያቄ መ ይሂዱ</li> <li>5. አላውቀውም</li> <li>6. ፍቃደኛ አይደለሁም</li> </ol>	□□□□□□
	መ. ከመንግስት የማህበራዊ ዋስትና ክፍያ(ለሲቪል አገልግሎት) ጡረታ፣ የስራ ማፈላለጊያ ክፍያ፣ የተለየ አስተዋጽኦ የሚገኝ ገቢ	<ol style="list-style-type: none"> <li>1. አዎ በሳምንት</li> <li>2. አዎ በወር</li> <li>3. አዎ በአመት</li> <li>4. የለም ከሆነ ወደ ጥያቄ ሠ ይሂዱ</li> </ol>	□□□□□□

		5. አላውቀውም 6. ፍቃደኛ አይደለሁም	
	ሠ. ከወለድ (ለምሳሌ ከቁጠባ ወይም ቋሚ ከተቀመጠ ገንዘብ) የሚገኝ ገቢ	1. አዎ በሳምንት 2. አዎ በወር 3. አዎ በአመት 4. የለም ከሆነ ወደ ጥያቄ ረይሂዱ 5. አላውቀውም 6. ፍቃደኛ አይደለሁም	□□□□□□
	ረ. ሌላ ካለ ይግለፁ	1. አዎ በሳምንት 2. አዎ በወር 3. አዎ በአመት 4. የለም ከሆነ ወደ ጥያቄ 117 ይሂዱ 5. አላውቀውም 6. ፍቃደኛ አይደለሁም	□□□□□□
204. 3	መረጃውን ለማረጋገጥ በባለፈው 12 ወራት አጠቃላይ ገቢ ከሁሉም የገቢ ምንጭ ምን ያህል ነው?	□□□□□□	

**የሃብት ደረጃ የተመለከቱ ጥያቄዎች**

የሚቀጥሉት ጥያቄዎች የሚኖሩበት ቤት ውስጥ ስለሚገኙ ንብረቶች እና የቤት አሰራር ሁኔታ ይመለከታል			
1. የቤት ንብረት እና አገልግሎት፡- እባክዎ የሚቀጥሉትን ጥያቄዎች ቤትዎ ውስጥ ስለሚገኙ ንብረቶችና አገልግሎቶች እያሰቡ ይመልሱ			
205	የኤሌትሪክ ሃይል	1. አለ 2. የለም	
206	ሰዓት	1. አለ 2. የለም	
207	ቴሌቪዥን	1. አለ 2. የለም	
208	ራዲዮ/ቴፕ/የሙዚቃ ማጫወቻ/stereo system/	1. አለ 2. የለም	
209	ሞባይል/ ተንቀሳቃሽ ስልክ	1. አለ 2. የለም	

210	የቤት/ የመስመር ስልክ	1. አለ 2. የለም	
211	ኮምፒዩተር	1. አለ 2. የለም	
212	የኢንተርኔት አገልግሎት	1. አለ 2. የለም	
213	ማቀዝቀዣ (ፍሪጅ)	1. አለ 2. የለም	
214	ጠረቤዛ	1. አለ 2. የለም	
215	ወንበር	1. አለ 2. የለም	
216	የአልጋ የጥጥ/ስፖንጅ/ስፕሪንግ ፍራሽ	1. አለ 2. የለም	
217	የኤሌትሪክ ምጣድ	1. አለ 2. የለም	
218	ኩራዝ	1. አለ 2. የለም	
219	የልብስ ማጠቢያ ማሽን	1. አለ 2. የለም	
220	የዕቃ ማጠቢያ ማሽን	1. አለ 2. የለም	
221	ሶፋ	1. አለ 2. የለም	
222	ብስክሌት	1. አለ 2. የለም	
223	የሞተር ብስክሌት/ትንሽ ዶቅዶቄ	1. አለ 2. የለም	
224	በእንስሳ የሚሳብ ጋሪ	1. አለ 2. የለም	
225	መኪና	1. አለ 2. የለም	
226	በቤትዎ የጸጥታ ስርዓት (የአደጋ ደወል፣ አደጋ ጠቋሚ በር፣ ጥበቃ) አለዎት?	1. አለ 2. የለም	
227	ለምግብ ማብሰያ የሚጠቀሙበት የብቻ ክፍል	1. አለ 2. የለም	
228	ከቤትዎ ጋር አብሮ የተሰራ የኩሽና የፍሳሽ መስመር?	1. አለ 2. የለም	
229	ሙቅ ሻወር (hot running water)	1. አለ 2. የለም	
230	በክፍያ የተቀጠረ ሰራተኛ(አትክልተኛ፣ የቤት ሰራተኛ፣ የጽዳት ሰራተኛ ሾፌር)?	1. አለ 2. የለም	
231	ተጨማሪ(ሁለተኛ)መኖሪያ ቤት	1. አለ 2. የለም	
232	የባንክ ተቀማጭ ሒሳብ	1. አለ 2. የለም	
233	ለእርሻ የሚጠቀሙበት መሬት	1. አለ 2. የለም	
234	አዎ ከሆነ ምን ያህል ሄክታር	1. ከ 95 ሄክታር በላይ 2. አይታወቅም	

235	ከብቶች፣ መንጋዎች ወይም የእርሻ እንስሶች	1. አለ 2. የለም	
	የቀንድ ከብት	1. የለም 2. 95 እና ከዚያ በላይ 3. አይታወቅም	
	ፈረስ፣ አህያ ወይም በቅሎ	1. የለም 2. 95 እና ከዚያ በላይ 3. አይታወቅም	
	ግመል	1. የለም 2. 95 እና ከዚያ በላይ 3. አይታወቅም	
	ፍየል	1. የለም 2. 95 እና ከዚያ በላይ 3. አይታወቅም	
	በግ	1. የለም 2. 95 እና ከዚያ በላይ 3. አይታወቅም	
	ዶሮ	1. የለም 2. 95 እና ከዚያ በላይ 3. አይታወቅም	
	የንብ ቀፎ	1. የለም 2. 95 እና ከዚያ በላይ 3. አይታወቅም	

2. የቤት አሰራር ሁኔታ፡- እባክዎ የሚቀጥሉትን ጥቂዎች ስለሚኖሩበት ቤት አሰራርና ሁኔታ እያሰቡ ይመልሱ

236	የሚኖሩበት ቤት ባለቤትነቱ የማን ነው?	1. የግል 2. የመንግስት (የቀበሌ) 3. ከግለሰብ ክራይ 4. ሌላ ካለ ይገለጹ----	
237	ለመኝታ የሚጠቀሙበት ክፍል ስንት ነው?		
238	የመጠጥ ውሃ ምንጭ	1. መኖሪያ ቤት ውስጥ ያለ ሀንጻ 2. አጥር ግቢ ውስጥ ያለ ሀንጻ 3. መንገድ ላይ የሚተከል ሀንጻ/ የህዝብ ሀንጻ 4. ከተቆፈረ መሬት የሚወጣ ውሃ 5. የተከለለ የተቆፈረ የምንጭ ውሃ 6. ያልተከለለ የተቆፈረ የምንጭ ውሃ 7. የተከለለ የምንጭ ውሃ 8. ያልተከለለ የምንጭ ውሃ 9. የዝናብ ውሃ	

		<p>10.ከውሃ መጫኛ መኪና/ ታንክር</p> <p>11.ከትናንሽ ውሃ መጫኛ ተሳቢዎች</p> <p>12.የውጭ ውሃ (ወንዝ/ግድብ/ሀይቅ/ትንሽ ወንዞች/ቦይ/መስኖ)</p> <p>13.የጠርመራ/የብልቃጥ/የላስቲክ ውሃ</p> <p>14.ሌላ</p>	
239	ለመጠጥነት የማይውል ውሃ ምንጭ	<p>1. መኖሪያ ቤት ውስጥ ያለ ሲንቧ</p> <p>2. አጥር ግቢ ውስጥ ያለ ሲንቧ</p> <p>3. መንገድ ላይ የሚተከል ሲንቧ/ የህዝብ ሲንቧ</p> <p>4. ከተቆፈረ መሬት የሚወጣ ውሃ</p> <p>5. የተከለለ የተቆፈረ የምንጭ ውሃ</p> <p>6. ያልተከለለ የተቆፈረ የምንጭ ውሃ</p> <p>7. የተከለለ የምንጭ ውሃ</p> <p>8. ያልተከለለ የምንጭ ውሃ</p> <p>9. የዝናብ ውሃ</p> <p>10.ከውሃ መጫኛ መኪና/ ታንክር</p> <p>11.ከትናንሽ ውሃ መጫኛ ተሳቢዎች</p> <p>12.የውጭ ውሃ (ወንዝ/ግድብ/ሀይቅ/ትንሽ ወንዞች/ቦይ/መስኖ)</p> <p>13.ሌላ</p>	
240	የውሃ ምንጭ ቦታ/መገኛ	<p>1. የራስ መኖሪያ ቤት ውስጥ 2. ግቢ ውስጥ 3. ሌላ ቦታ</p>	
241	ውሃ ቀድቶ ለመመለስ የሚፈጀው ጊዜ	<p>1. አንድ ቦታ ላይ የሆነ 2. አላውቀውም</p>	
242	ውሃ የሚቀዳው ሰው ማን ነው?	<p>1. አዋቂ/ጎልማሳ ሴት</p> <p>2. አዋቂ/ጎልማሳ ወንድ</p> <p>3. ከ 15 ዓመት በታች ሴት ህፃን</p> <p>4. ከ 15 ዓመት በታች ወንድ ህፃን</p> <p>5. ሌላ ካለ ይገለፅ-----</p>	

243	ውሃውን ለማከም የሚደረግ ነገር አለ	1. አዎ 2. የለም 3. አላቅም	
244	አብዛኛውን ጊዜ ውሃውን ለመጠጥነት ለማዋል የምታክሙበት ዘዴ ምንድነው?	1. ማፍላት 2. ማንፃብ/በረከ.ና/መከላከያ/ቢሻን ጋሪ/ማንፃብ ብረት መጨመር 3. በጨርቅ ማጥለያ 4. የውሃ ማጣሪያ (ሴራሚክ/አሸዋ/የተውጣጣ) 5. በፀሃይ ብርሃን የሚሰራ የማጣራት ሂደት 6. ቁጭ አድርጎ እንዲዘቅጥ ማድረግ 7. ሌላ ----- 8. አላውቀውም	
245	የሚኖሩበት ቤት የጣሪያው አይነት?	1. ጣሪያ የሌለው-2. የሳር/ጭቃ/ዘንገባ 3. ሽካራ ሰሌገ4. ረጃጅም ቁጤማ/ሸንቦቆ 5. የእንጨት ጣውላ6. ካርቶን 7. ቆርቆሮ/ ብረት8. እንጨት 9. አስቤስቶስ/ በሲሚንቶ የተሳሰረ 10. ሲሚንቶ 11. የጠጠር ጣሪያ 12. ሌላ ካለ ይገለፅ----	
246	የሚኖሩበት ቤት የግድግዳው አይነት?	1. ወለል የሌለው 2. ሸንቦቆ/ረጃጅም ቁጤማ/አርጨጨም/ግንድ 3. አፈር 4. ሸንቦቆ/እንጨት ከጭቃ ጋር 5. ድንጋይ ከጭቃ ጋር 6. ያልተሸፈነ ከጡብ የተሰራ 7. የተነባበረ ሳንቃ 8. ካርቶን 9. መልሶ በጥቅም ላይ የዋለ እንጨት 10. ሲሚንቶ 11. ድንጋይ ከኖራ ጋር/ከሲሚንቶ ጋር 12. ጡብ	

		13. በሲሚንቶ የተሰራ ማዕዘን ጡብ 15. ጣውላ/ጠጠር -	14. የተሸፈነ 16. ሌላ ካለ ይገለፅ-----
247	የሚኖሩበት ቤት የወለል አይነት	1. አፈር/አሸዋ 2. ፍግ 3. የእንጨት ጣውላ 4. ዘንባባ/ሸንቦቆ 5. የተጠላለፈ የወለል ጣውላ/የተቀባ ውልውል እንጨት 6. የተቆራረጠ አስፋልት/ጠንካራ ፕላስቲክ 7. ሴራሚክ /ሸክላ 8. ሲሚንቶ 9. ምንጣፍ (ስጋጃ) 10. ሌላ ካለ ይገለፅ-----	
248	የመጻጃ ቤት አገልግሎት አይነት?	1. ወደ ቆሻሻ የሚተላለፍበት ቱቦ የሚለቀቅ መጻጃ ቤት 2. ወደ ውሃ አዘል ሰገራ ጉድጓድ የሚለቀቅ መጻጃ ቤት 3. ወደ ጉድጓድ የሚለቀቅ መጻጃ ቤት 4. ወደ ሌላ ቦታ የሚሄድ 5. አላውቀውም 6. ማናፈሻ ያለው የጉድጓድ መጻጃ ቤት 7. የጉድጓድ መጻጃ ቤት ከድንጋይ የተሰራ 8. የጉድጓድ መጻጃ ቤት ከድንጋይ ያልተሰራ/ ክፍት የሆነ 9. ለፍጋ ፍግ የሚሆን መጻጃ ቤት 10. የባልዲ/ የፕላስቲክ መጻጃ	

		11.ተንጠልጣይ መፀዳጃ 12.ደን ውስጥ/ ሜዳ ላይ/ መፀዳጃ ቤት የሌለው 13.ሌላ ካለ ይገለፅ----	
249	የምትጠቀሙት በጋራ ነው?	1. አዎ      2. አይደለም	
250	መፀዳጃ ቤቱን በጋራ የምትጠቀሙበት የቤተሰብ ብዛት?	1. 10 እና ከዚያ በላይ      2. አላውቀውም	
251	ለማብሰያነት የምትጠቀሙበት የነዳጅ ዓይነት?	1. ኤሌትሪክ      2. ፈሳሽ የፔትሮሊየም ጋዝ 3. የተፈጥሮ ጋዝ      4. ከሽንት ቤት የሚገኝ ነዳጅ 5. ነጭ ጋዝ      6. ከሰል 7. እንጨት      8. ሳር/ቁጥቋጥ 9. የእርሻ ሰብል      10. የእንስሳ ፍግ 11. ምንም ምግብ አይበስልም      12. ሌላ ----- -	
252	ምግብ የሚበስለው የት ነው?	1. ቤት ውስጥ      2. ለብቻ ክፍል ውስጥ      3. ውጪ 4. ሌላ ካለ ይገለፅ-----	

**ክፍል 3 የጤና አገልግሎት አጠቃቀም መረጃ**

ቁጥር	ጥያቄ	መልስ	ወደሚቀጥለው ጥያቄ ይሂዱ
301	ወደዚህ ጤና ጣብያ ሲመጡ የመጀመሪያዎት ነው?	1. አዎ      2. አይደለም	
302	ለጥያቄ 301 አይደለም ከሆነ መልስዎ እንዴት ነው የሚያዘውትሩት?		
303	ወደዚህ ቦታ የመጡት በምን ምክንያት ነው?	1. ለህመሜ ህክምና ለማግኘት 2. ለአጠቃላይ የጤና ምርመራ 3. የጤና ሰርተፍኬት	

		<p>ለማግኘት</p> <p>4. ሌላ ካለ ይግለፁ---</p>	
304	ወደዚህ የመጡበት ምክንያት ለህክምና ከሆነ ህመምዎ ምንድነው?		
305	ለምርመራ፣ ለህክምና እና ለመድሃኒት ምን ያህል ከፈሉ?	<p>1. ነፃ</p> <p>2. -----በር</p> <p>3. ሌላ ካለ ይግለፁ---</p>	
306	እዚህ የሚሰጠውን አገልግሎት እንዴት ይገመግሙታል?	<p>1. በጣም ዝቅተኛ</p> <p>2. ዝቅተኛ</p> <p>3. ጥሩ</p> <p>4. በጣም ጥሩ</p>	
307	ይህንን ጤና ጣብያ የመረጡበት ምክንያት ምንድነው?		
308.1	ከተሰጥዎ አገልግሎት የትኛው አሰራር አርክቶዎታል?		
308.2	ከተሰጥዎ አገልግሎት የትኛው አሰራር አላረካዎትም?		
308.3	እዚህ ከደረሱ በኋላ የጤና አገልግሎቱን ለማግኘት በአማካይ ምን ያህል ሰዓት ቆዩ?		
309	በባለፈው ሶስት ወራት ውስጥ ታመው ያቃሉ?	1. አዎ 2. አላቅም	
310	ለጥያቄ 309 አዎ ከሆነ መልስዎ ህመምዎ ምን ነበር?		
311	ለህመምዎ ህክምና አድርገዋል?	1. አዎ 2. አላደረኩም	
312	ለጥያቄ 311 አዎ ከሆነ መልስዎ የት ነበር የታከሙት?	<p>1. የመንግስት ሆስፒታል</p> <p>2. ጤና ጣቢያ</p> <p>3. የግል ክሊኒክ</p> <p>4. የግል ሆስፒታል</p> <p>5. ባህላዊ ህክምና</p>	

		6. ሌላ ካለ ይገለፅ----	
313	ከዚህ በፊት ህክምና ማግኘት ፈልገው ያላገኙበት ጊዜ ነበር?	1. አዎ 2. አልነበረም	
314	ለጥያቄ 313 መልስዎ አዎ ከሆነ ለምን?		
315	ወደፊት ህክምና ማግኘት የሚያስፈልግበት ጊዜ ቢኖር ዳግመኛ ወደዚህ ጤና ጣብያ ይመጣሉ?	1. አዎ 2. አልመጣም	
316	ለጥያቄ 315 አልመጣም ከሆነ መልስዎ ለምን?		

ተጨማሪ አስተያየት ካለዎት.....

አመሰግናለሁ

**Assurance by principal investigator and approval by primary advisor**

**Assurance by principal investigator**

The undersigned agrees to accept responsibility for the scientific ethical and technical conduct of the research project and for provision of required progress reports as per terms and conditions of the Research Publications Office in effect at the time of grant is forwarded as the result of this application.

**Name of the student:** Mihret Kassahun

Date:Signature: \_\_\_\_\_

**Approval by primary advisor**

**Name of primary advisor:** Professor Damen Haile Mariam

Date:Signature: \_\_\_\_\_