
# COLLEGE OF HEALTH SCIENCES SCHOOL OF MEDICINE DEPARTMENT OF FAMILY MEDICINE

## KNOWLEDGE AND ATTITUDE TOWARD ANTIMICROBIAL RESISTANCE AMONG THE COMMUNITY: AN INSTITUTION-BASED STUDY IN NEFAS SILK SUB-CITY, ADDIS ABABA, ETHIOPIA

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ADDIS ABABA UNIVERSITY COLLEGE OF HEALTH SCIENCES

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# List of abbreviation and acronyms

AR: Adjusted odd ratio

AMR: Antimicrobial resistance

CI: Confidence interval

ETB: Ethiopian birr

IRB: Institutional review board

WHO: world health organization

CDC: Centers for disease control

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**Abstract**

**Background-**Antibiotics overuse means excessive consumption of antibiotics and misuse refers to the incorrect order of antibiotics, self-medication, and improper use in agriculture. The World Health Organization (WHO), defined self-medication as the selection and use of drugs to address self-identified diseases or symptoms (4). Both misuse and excessive use of antibiotics because of limited awareness have brought about the rise of antimicrobial resistance by creating environments good to thrive for resistant bacteria. This has given rise to antimicrobial resistance (AMR), where microorganisms develop resistance to drugs that were once effective.

**Objective-**To evaluate the community knowledge and attitudes toward antibiotic use and antimicrobial resistance and factors associated in Nifas Silk Sub-City, Addis Ababa, Ethiopia from July to August 2025.

**Methods-**This study was done in Nifas Silk Sub-City, Addis Ababa in a diverse area with approximately 400,000 residents and 8 public health centers. An institutional-based cross-sectional design was used to assess adults' knowledge and attitudes toward antimicrobial resistance between July 20 and August 31, 2025. Total participants of 401 were selected using a lottery sampling technique: five health centers were randomly chosen, and then convenience sampling was applied at triage areas. Data was collected using an interviewer-administered questionnaire adapted from validated tools and processed using Stata. The study used descriptive statistics and setting the $P<0.05$ for significance analyses was done using logistic regression to explore relation between socio-demographic factors and levels of knowledge and attitude.

**Results-** Of the 401 participants (54.1%) were females. A large number of respondents were young adults aged 26–35 years (35.9%), followed by those aged 18–25 years (31.2%). 42.1% of the participants have diploma or degree-level education followed by secondary education 35.9%. Out of the total 401 participants, 398 respondents had complete responses for knowledge with response rate of 99.3%. 52.5% (n = 209; 95% CI: 47.6–57.4%) of the participants had poor knowledge. 48.5% (n = 194; 95% CI: 43.6%–53.4%) of the participants had a poor attitude toward antimicrobial resistance. Analysis done using multivariable logistic regression showed the main predictors of poor knowledge were education level, monthly income, and sex. Occupation and monthly earning were significantly associated with poor attitude.

**Conclusions-**The study revealed that majority of the respondents demonstrated poor knowledge about antimicrobial resistance and rational antibiotic use, almost half had poor attitude about antimicrobial resistance.

**Keywords** - Knowledge, attitude, antimicrobial resistance

# 1. Introduction

## 1.1 Background

Microbes are organisms which are invisible to the naked eye with bacteria, viruses and fungi being most common types. Antimicrobial have being used against these organisms to combat the different diseases they cause.(1)

The history of antimicrobial goes back to the ancient time. Antibiotics have profoundly impacted medicine, saving countless lives, but they also highlight the need for careful stewardship to preserve their efficacy for future generations (2). One of the most important discoveries of the 20th century were the discoveries of antibiotics that significantly reduced mortality and revolutionized infectious diseases management. Alexander Fleming discovered Penicillin as the first antibiotics in 1928 (2,3)

Despite their life-saving benefits, antibiotics have been overused which are directly involved with the excessive consumption of antibiotics and misuse refers to the incorrect prescribing of antibiotics, self-medication, improper use in agriculture. The World Health Organization (WHO), defined self-medication as the selection and use of drugs to address self-identified diseases or symptoms (4). Both misuse and overuse create environments where resistant bacteria thrive. This has caused the rise of antimicrobial resistance (AMR), where microorganisms develop resistance to drugs that were once effective (3,5).

When penicillin was started being used widely on 1940s drug resistance started emerging. In 2019, WHO declared antimicrobial resistance as one of the top 10 global public health threats facing humanity (3,6). Widespread use of antibiotics without prescriptions, poor public awareness, improper disposal of pharmaceutical waste, and extensive utilization of antibiotics in agriculture were some of the factors that lead to antimicrobial resistance(7).

Globally, WHO states that Antimicrobial resistance has turned into a threat to the health system (5). The UK government and the CDC have also stated the dire aspects of antimicrobial resistance (3,8).

In Africa, excessive and inappropriate use of antibiotics in humans and animals, inappropriate prescribing practices, poor sanitation, lack of diagnostic facilities, and unregulated access to antimicrobial are responsible for AMR (7,9).

In Ethiopia, studies have shown the increasing trend of antimicrobial resistance AMR, both in healthcare settings and within communities. Main factors include self-medication, limited laboratory support for diagnosis, and poor antibiotic stewardship (10,11). In addition, significant knowledge gaps and misconceptions persist among the public (12,13). These findings point to the need for more targeted assessments of community-level knowledge and attitudes.

## 1.2. Statement of the problem

The effectiveness of antibiotics is rapidly declining due to the growing concern of antimicrobial resistance (AMR) (3). If measures are not taken, antimicrobial resistance (AMR) could be responsible for up to 10 million deaths annually by 2050 according to a report by O'Neil in 2014 and results in global gross domestic product decrease by 2% to 3.5%. In recent times, AMR has become the number one contributor for infection-related mortality globally, mostly happening in low-resource settings. Among infectious diseases, lower respiratory infections are the most common causes of death (8,14).

Once a problem in hospitals, antimicrobial resistance (AMR) has become an issue in the primary care settings and affecting common infection treatment like Tuberculosis, Gonorrhea, and urinary tract infections. Individuals who have taken antibiotics can carry resistant bacteria for up to a year, increasing the risk of treatment failure and further transmission (8).

Many countries have been experiencing the AMR health crisis and Ethiopia is one of them. The increasing ineffectiveness of commonly used antimicrobials—both in human and animal health has become a major health concern. Several studies done in Ethiopia have documented alarmingly high resistance rates to preferred antibiotics listed in Ethiopia's Standard Treatment Guidelines (12,15), posing serious threat to the management of otherwise simple infections and the success of medical interventions.

Main driver in the antimicrobial resistance (AMR) crisis is the widespread limited public knowledge regarding the dangers of antibiotic misuse and overuse, including practices like self-medication and incomplete treatment courses (4,12). Studies done Globally on self-medication with antibiotics among adults is estimated at 43% showing that it is a prevalent issue. In studies done in Africa, its estimation is 55.2% in sub-Saharan Africa and approximately 50% in Ethiopia (4). Inappropriate self-medication not only wastes healthcare resources but also increases the risk of drug resistance, adverse drug reactions, treatment failures, prescription misuse, and drug dependence. Moreover, incomplete courses of antibiotics are a significant factor contributing to antimicrobial resistance (AMR) (3).

Ethiopia as many other developing countries faces additional barriers like limited availability of healthcare services, poor regulatory enforcement, and low public awareness, all of which worsen the AMR situation (7,9). In addition to those environmental issues, such as improper pharmaceutical disposal and contamination of water supplies contribute to creating resistant microbes (7,16).

Many communities still lack a basic understanding of AMR and its serious consequences even though there is an increase in global attention. This knowledge gap leads to behaviors including self-medication and prematurely stopping antibiotic treatments that worsen the problem. Therefore, public education plays a key role in fighting against antimicrobial resistance (AMR) awareness creation must be done not only targeting healthcare providers but also among community members, farmers, and other key stakeholders (17).

The significant gaps in public knowledge and behaviors surrounding antibiotic use have being identified by researches done in Ethiopia (11,18). This study seeks to address those gaps by assessing the knowledge and attitudes of community members toward AMR in Nifas Silk Sub-City, Addis Ababa in the health center.

# 2.Literature Review

## 2.1 Magnitude of AMR

According to World Health Organization and other global entities, without immediate action towards AMR the world is going into a "post-antibiotic era," making common infections and minor injuries life threatening. (5).

Global impact of AMR is increasing.1.27 million deaths and nearly 5 million deaths worldwide are directly connected to AMR in 2019 alone, with the highest rates observed in sub-Saharan Africa (8). If current trends persist, about 10 million deaths are expected to be caused by AMR annually by 2050, with additional economic cost to global output reaching $100 trillion (14). Antibiotic administration has raised by 65% from 2000 to 2015, mainly in low- and middle-income countries (16).

The WHO GLASS report shows Escherichia coli have increased resistance rates for third-generation cephalosporins reported at 36% globally. Carbapenem resistance in Klebsiella pneumoniae was 8%. Methicillin-resistant Staphylococcus aureus (MRSA) accounted for 20% of infections (6).

In Africa, commonly used antibiotics, such as ampicillin and tetracycline have rate of resistance exceeding 60% (19). 45–70% of healthcare-associated infections in African hospitals exhibited resistant to at least one first-line antibiotic, reflecting systemic gaps in surveillance and regulation (20).

In Ethiopia, Escherichia coli isolates showed resistance to ampicillin 74% and cotrimoxazole 68%(10). Another study found that up to 87% of isolates showed resistance to ciprofloxacin (14), posing a growing challenge to effective clinical care and infection control.

## 2.2 Factors contributing to AMR

The causes of AMR are many. Studies show factors such as unnecessary prescriptions and patient non-compliance—as well as in animal agriculture, where antibiotics are often used for growth promotion (3,16). Studies have shown a significant rise in global antibiotic consumption—between 2000 and 2015, use increased by 65%, especially in low- and middle-income countries (14). Environmental contamination through improper pharmaceutical disposal into the environment also plays a role (19,20).

In African countries, up to 80% of antibiotics were obtained without prescription. Self-medication rates ranged from 40% to 70%, with antibiotics commonly used for non-bacterial illnesses. Inadequate regulation led to over-the-counter sale of antibiotics in more than 60% of pharmacies and informal drug shops. Poor sanitation and hygiene in healthcare facilities and communities are also considered causes for antimicrobial resistance (9,10).

In Ethiopia, a study showed 48.3% of the respondents had self-medication with antibiotics (8). Among antibiotic users, 64% reported not completing the full course of treatment. Empirical treatment without diagnostic support was used in over 70% of clinical cases. Only 25% of health facilities had access to routine microbiological testing (9).

## 2.3 Level of Knowledge and Attitude of AMR

Despite efforts to combat AMR, public knowledge and awareness remain a big problem. A systematic review found that fewer than 40% of participants across various countries correctly identified that antibiotics do not work on viral infections (21). In Europe, only 43% of healthcare workers had received training on AMR in the past year (22). Survey done in Europe shows 50% or more of respondents wrongly believed that antibiotics kill viruses or treat colds, with this misconception most prevalent in Kazakhstan (65%) and Tajikistan (79%). In a survey done in the US, 82% of participants understood that resistant pathogens can spread between people; misconceptions about antibiotics persist, with 38% believing they weaken the immune system and 32% thinking AMR affects only frequent users (23).

In Africa, a study found that only 35% of respondents had heard of AMR, and just 28% could correctly define it (24). A meta-analysis done in Africa showed in Egypt about 58.03% had knowledge of AMR. In Zambia 87.3%, especially among tertiary school students. Among patients in South Africa, 53% had knowledge of AMR. In Nigeria, the lowest was 18.12%. In Egypt, positive attitude was shown by 16%. In South Africa among patients, studies showed about 53% had a positive attitude. In Nigeria, it was 7.8% and 40.3% (25).

In Ethiopia, in a study done 17.7% of participants understood that unnecessary antibiotic use enhances bacterial resistance. About 41.6% understood antibiotic resistance impact in the community and 51.9% believed that rational antibiotic use reduces AMR risks (29). In a meta-analysis study in Ethiopia, knowledge levels varied widely, with studies reporting good knowledge rates of 18.47% to 76.09% (25).

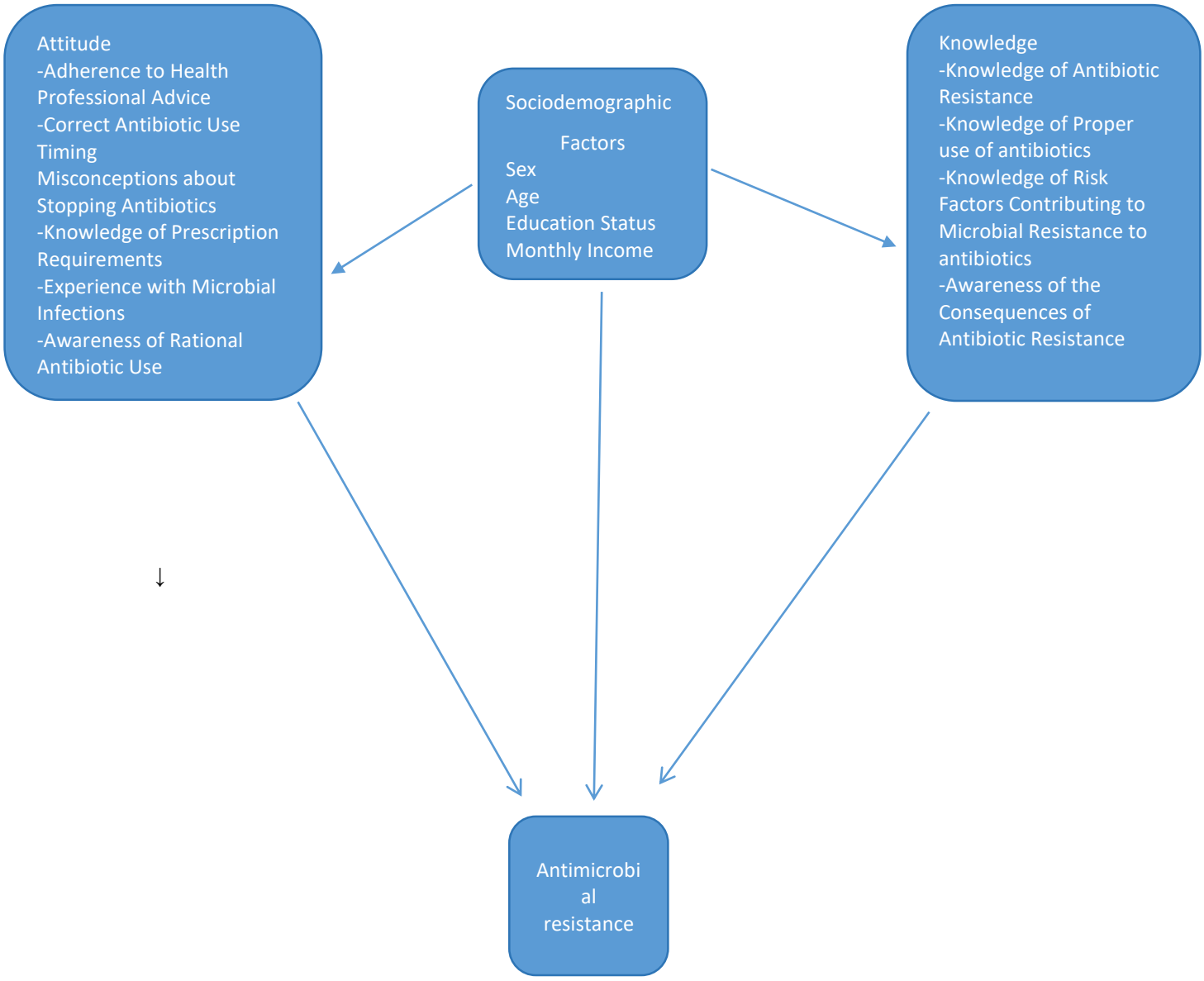
Misconceptions persist regarding the role of antibiotics in treating viruses and stopping usage due to side effects (12). Among healthcare providers, only 45% of paramedical students could identify the causes of AMR (26); in another study, it is reported that 62% of participants had used antibiotics without prescriptions, and only 33% were aware of the consequences of misuse (18).

The study showed 36.75% had good high knowledge. Misconceptions were noted, such as 45.5% believing antimicrobials affect viruses. 57.5% of respondents held positive attitudes, with many agreeing on completing treatment courses and avoiding antimicrobials without prescriptions (27).

## 3.Significance of the study

This study aims to find out the community level of knowledge and attitude of antimicrobial resistance. Based on these findings, study is important for:

- Ethiopia's health minister and Addis Ababa health Bureau to have their own survey method.
- For policy makers and health care administrations to make policies and create guidelines.
- Community awareness on AMR
- For the health professionals to use antibiotics properly and educate their patients.
- For researchers providing information for further study on topic of this study.




Conceptual framework on sociodemographic relation to knowledge and attitude of antimicrobial resistance (AMR) (Yohannes 2020)

# 4.OBJECTIVES

## 4.1. General Objective

-To determine the community's knowledge and attitudes toward antibiotic use and antimicrobial resistance.

## 4.2. Specific Objectives

-To examine the level of knowledge of the community about AMR and antibiotic use.

-To evaluate community attitudes toward the use of antibiotics and understanding of AMR

-To identify sociodemographic factors associated with knowledge and attitudes on AMR

# 5.Methods

## 5.1. Study Setting

The study was done in Nifas Silk Sub-City, one of the 11 sub-cities in Addis Ababa, Ethiopia. It has an estimated population of 400,000 residents and is served by eight government health centers. The sub-city includes different communities with different socio demographic backgrounds.

## 5.2. Study Design and Period

The design of the study was institutional based cross-sectional study design. Data will be collected over a two-month period, from July 20 to August 31, 2025.

## 5.3. Source of Population

All residents aged 18 years and above living in Nifas Silk Sub-City coming to the health centers during the course of the study were constituted the source population.

## 5.4. Study Population

The study population includes adult residents (18 years and above) who were available at the health centers and willing to participate throughout data collection time.

## 5.5. Inclusion and Exclusion Criteria

### 5.5.1. Inclusion Criteria

Participants were eligible for the study if they meet the following conditions:

-Aged 18 years and above.

-Available at the time of collection period.

-Willing to participate and provide informed consent.

### 5.5.2. Exclusion Criteria

In this study participants were excluded if they:

-Healthcare professionals or students in the health sciences

-Mentally incapable and critically ill

## 5.6. Sample Size

Sample size was determined for this study by using single population proportion formula for estimating a single population proportion. A previous study by Mulugeta Kibret. (2022) was used for calculation, which reported that 37.5% of participants had good knowledge of antibiotic resistance, 43.5% of participants had good attitude

$$n_0 = (Z^2 * p * (1 - p)) / d^2$$

Where:

Z=1.96 (standard score for 95% confidence level)

p=0.375 (proportion with good knowledge from a research done. (30)

d=0.05 (margin of error)

10 % non-responders

For knowledge= $(1.96)^2 * 0.375 * (1 - 0.375)) / (0.05)^2 = 361$

10% of 361=0.10×361=36.1

$n_0$ =364+36.1=401

For attitude p=28.4%=0.284(proportion with good attitude, from a research done. (13)

= $(1.96)^2 * 0.284 * (1 – 0.284)) / (0.05)^2 = 313$

10% of 313=0.10×313=31.3

$n_0$ =313+31.3=344.3=345

For associated factor for knowledge

| **Variable** | **Category (Exposed)** | **% of Controls Exposed** | **% of Controls Non-Exposed** | **OR / AOR** | **Sample Size (Cases + Controls)** | **Sample Size + 10% Non-Response** | **Reference** |
|---|---|---|---|---|---|---|---|
| Education | Secondary & above | 36% | 64% | 4.0 | 72 (36 + 36) | 80 | (30) |
| Occupation | Employed | 40% | 60% | 3.0 | 92 (46 + 46) | 102 | (30) |

For associated factor for attitude

| Variable | Category (Exposed) | % of Controls Exposed | % of Controls Non-Exposed | OR / AOR | Sample Size (Cases + Controls) | Sample Size + 10% Non-Response | Reference |
|---|---|---|---|---|---|---|---|
| Sex | Female | 36.5% | 63.5% | 0.44 | 215 (146 + 69) | 237 | (30) |
| Education | Diploma or above | 67.2% | 32.8% | 8.50 | 169 (42 + 127) | 186 | (30) |

Based on the largest sample size calculated the final sample size was 401.

## 5.7. Sampling procedures

For the sampling procedure 2 steps was used. First, selection was done using a lottery method to select the sub city. On identical slips of paper, the names of each sub city were written, mixed, and Nefas silk sub-city was drawn. For selection of health centers, the same method was used. 5 health centers which were wereda1 lebu health center, wereda 6 health center, wereda 10 health center, wereda 12 health center and wereda 5 health center were picked from the eight health centers available. A convenience sampling was used to choose participants at the triage area who met the eligibility criteria. Only individuals who satisfied the inclusion requirements who presented at the triage area of health centers in the study area made up the sampling frame.

## 5.8. Study Variables

### 5.8.1. Dependent Variables:

-Knowledge on AMR (Good/Poor)

-Attitude toward antibiotics (Favorable/Unfavorable)

### 5.8.2. Independent Variables:

-Socio-demographic variables (age, sex, education, income, occupation)

-Past antibiotic use behavior

## 5.9. Data Collection Procedures and quality assurance

Data were gathered through questionnaires administered by interviewers using Kobo. The structured questionnaires were adapted from previously validated tools, including KAP surveys used in studies like Yohannes et al. (2020). To ensure accuracy questionnaires translation into Amharic was done and then back to English. It was pretested in a non-study kebele at wereda 2 health center. Participants who come to visit the health centers were asked for participation on the study.

## 5.10. Data Analysis and processing

Data was extracted, cleaned, and exported from the digital tool to Stata for analysis. Descriptive statistics like frequencies, percentages were used the summarize the findings. Bivariate logistic analysis was employed to identify the relation between knowledge and attitude and socio demographic variables. To control for possible cofounding variables, those variables with a p-value of less than 0.05 in the bivariate analysis was selected for further analysis in the multiple logistic regression model. A 95% confidence interval was used to determine the precision of the associations, and a p-value of less than 0.05 indicated statistical significance. The results are presented using graphs, charts, tables and narrative text to provide a whole understanding of the findings. Model fitness was checked using Hosmer-Lemeshow goodness-of-fit test in stata (p=0.095). Normality test was done in stata with Q-Q plot showed mild abnormality. However, both the mean and median are similar mean has been used.

## 5.11. Operational definitions

**Antimicrobial resistance** means antimicrobial medicines are not effective on bacteria, viruses, fungi and parasites. It occurs when the microorganisms do not respond. (WHO).

**Knowledge**- is the fact or condition of understanding something with familiarity gained through experience or association.

**Attitude**-a position assumed for a specific purpose.

**Good knowledge** -Score above 60% using a parameter of a metanalysis survey done in Africa Atalay 2023.

**Poor Knowledge:** Participants who score 60% or below on the knowledge assessment.

**Positive attitude**-using Likert scale from 1 to 5 scoring 22 and above which is the mean.

**Negative Attitude:** Participants scoring 21 or below

## 5.12. Ethical Considerations

Ethical clearance was obtained from the Family medicine department and then from Addis Ababa health bureau research department.

From all participants written informed consent was gathered.

Confidentiality was strictly maintained. Data was made anonymous and used solely for research purposes.

Participants have the right to withdraw from the study at any stage.

## 5.13. Dissemination of Results

The results will be submitted and presented to Addis Ababa health science college school of medicine, Family medicine department. In addition to that it will be shared to Addis Ababa health bureau and Nifas Silk Sub-City health bureau.

# 6.Result

## 6.1 Socio-Demographic Characteristics of Respondents

A total of 401 participants were included in this study assessing awareness and perception toward antimicrobial resistance (AMR). Over half of the respondents were female (54.1%). The majority of respondents were young adults aged 26–35 years (35.9%), followed by those aged 18–25 years (31.2%). The largest proportion had diploma or degree-level education (42.1%), followed by secondary education (35.9%). In terms of monthly income, nearly half (44.6%) of the participants reported earning less than 5,000 ETB. 60.6% were employed.

| Variable | Category | Frequency (n) | Percent (%) |
|---|---|---|---|
| Age (years) | 18–25 | 125 | 31.2 |
| | 26–35 | 144 | 35.9 |
| | 36–45 | 56 | 14.0 |
| | 46–55 | 37 | 9.2 |
| | 56–65 | 39 | 9.7 |
| Sex | Male | 184 | 45.9 |
| | Female | 217 | 54.1 |
| Educational Level | No formal education | 15 | 3.7 |
| | Primary education | 73 | 18.2 |
| | Secondary education | 144 | 35.9 |
| | Diploma or Degree | 169 | 42.1 |
| Monthly Income (ETB) | < 5,000 | 179 | 44.6 |
| | 5,000–10,000 | 79 | 19.7 |
| | 10,000–20,000 | 73 | 18.2 |
| | > 20,000 | 70 | 17.5 |
| Occupation | Student | 28 | 7.0 |
| | Unemployed | 130 | 32.4 |
| | Employed | 243 | 60.6 |

*Table 1: Socio-Demographic Characteristics of Respondents at Nifas Silk subcity, Addis Ababa, Ethiopia August 2025 (n = 401)*

## 6.2 Knowledge Level of Respondents

The level of knowledge regarding antimicrobial resistance was determined using a composite knowledge score. Out of the targeted 401 participants, 398 respondents had complete responses for the knowledge-related questions making the response rate 99.3%. 52.5% (n = 209; 95% CI: 47.6–57.4%) of the 398 participants had poor knowledge of antimicrobial resistance, whereas 47.5% (n = 189; 95% CI: 42.6–52.4%) demonstrated good knowledge about AMR.

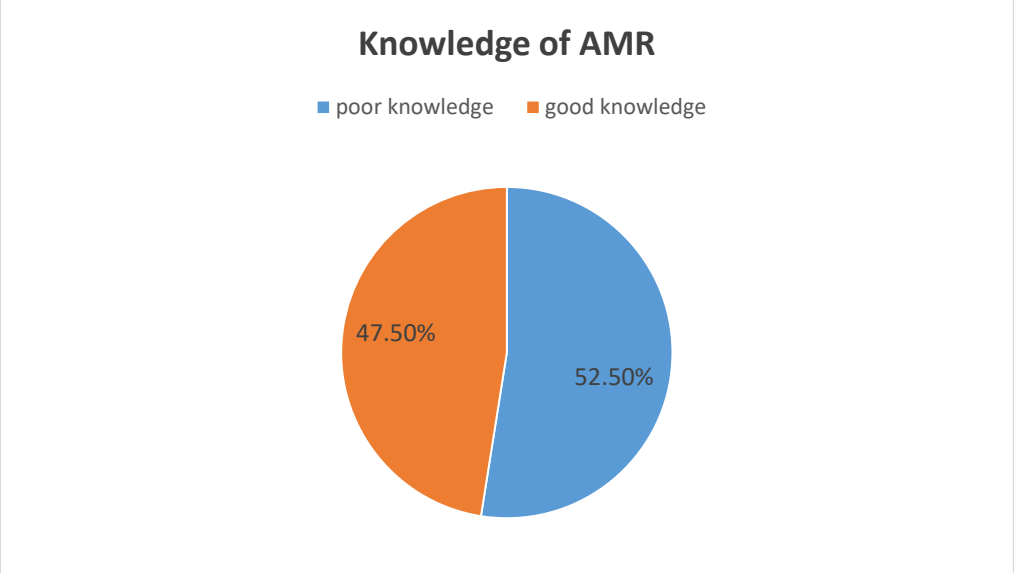



*Figure 1:Knowledge on AMR, Nifas Silk subcity, Addis Ababa, Ethiopia August, 2025 (n = 401)*

## 6.3 Attitude Level of Respondents

Respondents' overall attitudes toward antimicrobial resistance were also assessed using Likert scale. Out of the targeted 401 participants, complete responses were obtained from 400 making the response rate (99.8%**)** for the attitude.51.5% % (n = 206; 95% CI: 46.6%–56.4%) of the participants had a good attitude toward antimicrobial resistance, whereas only 48.5 %(n = 194; 95% CI: 43.6%–53.4%) demonstrated a poor attitude.

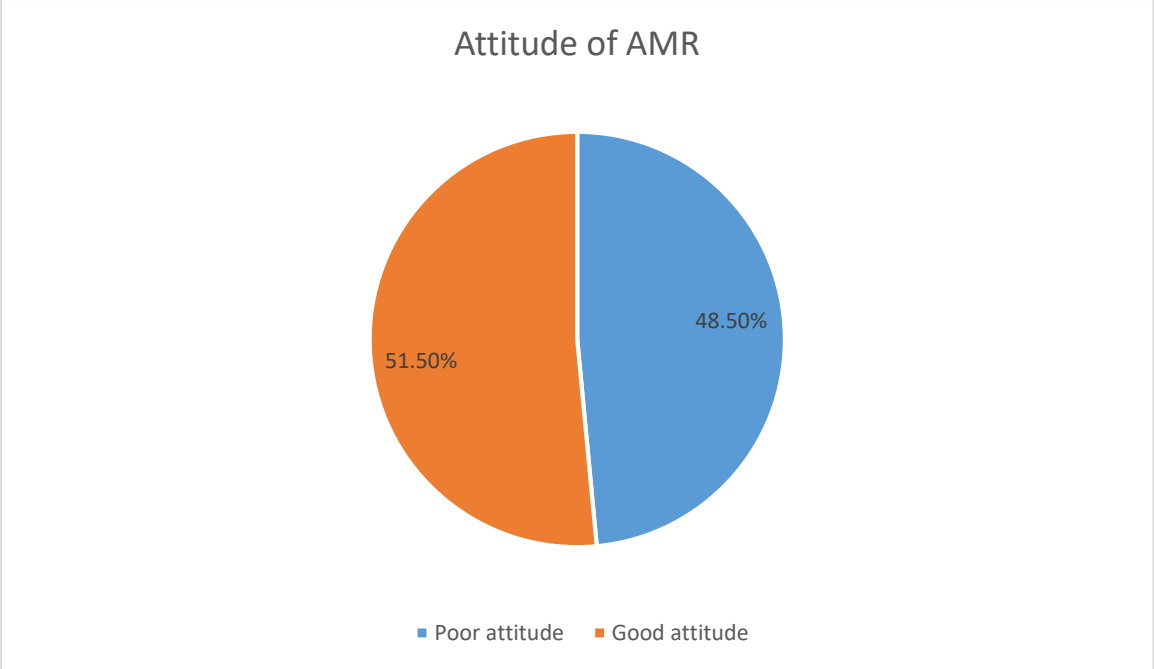



*Figure 2: Attitude towards AMR, Nifas Silk subcity, Addis Ababa, Ethiopia August, 2025*

## 6.4 Sociodemographic factors Associated with Knowledge Toward Antimicrobial Resistance

Logistic analysis was done uisng Multivariate regression model to evaluate socio-demographic and attitudinal factors association with the level of knowledge about antimicrobial resistance (AMR) among the study participants.

As shown in Table 2, female sex, lower educational level, and lower monthly income, were statistically significant predictors of poor knowledge about AMR ($p < 0.05$). Females were 2.3 times more likely to have inadequate knowledge than males (AOR = 0.44, 95% CI: 0.26–0.75, p = 0.002), demonstrating a gender discrepancy in AMR awareness.

Poor knowledge of AMR was related with lower education level or no formal education by 8.5 times more than compared to those with higher education levels (AOR = 8.50, 95% CI: 1.84–49.63, p = 0.007).

Similarly, respondents were 5 times more likely to have poor knowledge with lower income especially less than 5000 ETB than those with higher income above 20000 ETB (AOR = 0.20, 95% CI: 0.05–0.75, p = 0.02). Respondents with monthly income between 5000 and 20000 also more likely to have poor knowledge.

However, the relation between age, occupation and attitude with knowledge level were not significant ($p > 0.05$).

| Variable | Category | Knowledge towards AMR | | COR (95% CI) | AOR (95% CI) | P-value |
|---|---|---|---|---|---|---|
| | | Poor, n (%) | Good, n (%) | | | |
| Age group | 18–25 years (Ref.) | 74 (35.4) | 49 (25.9) | 1 | 1 | |
| | 26–35 years | 69 (33.0) | 74 (39.2) | 1.62 (0.99–2.64) | 0.57(0.29-1.10) | 0.09 |
| | 36–45 years | 21 (10.0) | 35 (18.5) | 2.52 (1.31–4.82) | 0.92(0.39-2.18) | 0.86 |
| | 46–55 years | 21 (10.0) | 16 (8.5) | 1.15(0.55–2.42) | 0.36(0.13-1.02) | 0.06 |
| | 56–65 years | 24 (11.5) | 15 (7.9) | 0.94 (0.45–1.98) | 0.48(0.19-1.21) | 0.12 |
| Sex | Female | 146(70.0) | 69(36.5) | 0.25(0.16–0.38) | 0.44 (0.26-0.75) | 0.002 |
| | Male (Ref.) | 63(30.1) | 120(63.5) | 1 | 1 | |
| Educational level | Below primary (Ref.) | 13 (6.2) | 2(1.1) | 1 | 1 | |
| | Primary | 62 (29.7) | 10 (5.3) | 1.05 (0.21–5.36) | 1.23(0.22-6.80) | 0.81 |
| | Secondary | 92 (44.0) | 50 (26.5) | 3.53 (0.77–16.28) | 3.10 (0.72-18.42) | 0.12 |
| | Diploma or above | 42 (20.1) | 127 (67.2) | 19.66(4.26–90.68) | 8.50 (1.84-49.63) | 0.007 |
| Monthly income (ETB) | Less than 5,000 | 127 (60.8) | 49 (25.9) | 0.04 (0.02–0.10) | 0.20(0.05-0.75) | 0.02 |
| | 5,000–10,000 | 52 (24.9) | 27 (14.3) | 0.06 (0.02–0.14) | 0.13(0.05-0.37) | 0.000 |
| | 10,000–20,000 | 23 (11.0) | 50 (26.5) | 0.24 (0.9–0.61) | 0.28 (0.10-0.75) | 0.011 |
| | More than 20,000 (Ref.) | 7 (3.3) | 63 (33.3) | 1 | 1 | |
| Occupation | Unemployed | 108 (51.7) | 47 (24.9) | 0.31 (0.20–0.47) | 1.34 (0.50-3.62) | 0.57 |
| | Employed (Ref.) | 101 (48.3) | 142 (75.1) | 1 | 1 | |

*Table 2: Logistic Regression Analysis of Factors Associated with Knowledge Toward Antimicrobial Resistance at Nifas Silk subcity, Addis Ababa, Ethiopia August 2025 (n = 398)*

## 6.5. Sociode mographic factors Associated with Attitude Toward Antimicrobial Resistance

The level of attitude about antimicrobial resistance (AMR) association with socio-demographic factors among the study participants was done using Multivariate logistic regression.

Occupation and monthly earnings were significantly associated with poor attitude. Participants with low income were 3.7 times more likely to have poor attitude (AOR = 3.74, 95% CI: 1.16–12.03, p = 0.027). Regarding occupation, both unemployed and employed participants were 9 and 11 times more likely to have a poor attitude compared to students (AOR = 0.11, 95% CI: 0.03–0.37, p < 0.001), (AOR = 0.09, 95% CI: 0.02–0.38, p = 0.001).

Sex, age group and educational level had p>0.05 making the association with attitude was insignificant.

| **Variables** | **Category** | **Attitude towards AMR** | | **COR (95% CI)** | **AOR (95% CI)** | **p-value** |
|---|---|---|---|---|---|---|
| | | Poor, n (%) | Good, n (%) | | | |
| **Sex** | Female | 125 (64.4) | 115 (55.8)<br>115 (55.8)<br>91 (44.2) | 0.49 (0.27–0.91) | 0.81 (0.48–1.36) | 0.431 |
| | Male (Ref.) | 69 (35.6) | 91 (44.2) | 1 | 1 | — |
| **Age group** | 56–65 yrs | 17 (8.8) | 22 (10.7) | 0.85 (0.42–1.75) | 1.27 (0.71–2.27) | 0.425 |
| | 46–55 yrs | 19 (9.8) | 18 (8.7) | 1.81 (0.57–5.71) | 1.17 (0.55–2.51) | 0.680 |
| | 36–45 yrs | 26 (13.4) | 30 (14.6) | 0.60 (0.22–1.59) | 1.08 (0.45–2.63) | 0.858 |
| | 26–35 yrs | 67 (34.5) | 77 (37.4) | 0.54 (0.21–1.39) | 1.77 (0.77–4.07) | 0.177 |
| | 18–25 yrs (Ref.) | 65 (33.5) | 59 (28.6) | 1 | 1 | — |
| **Education level** | Primary | 45 (23.2) | 27 (13.1) | 2.97 (0.95–9.27) | 2.01 (0.54–7.40) | 0.295 |
| | Secondary | 78 (40.2) | 66 (32.0) | 6.23 (2.05–18.95) | 2.03 (0.57–7.28) | 0.278 |
| | Diploma or higher | 60 (30.9) | 109 (52.9) | 47.14 (11.41–194.78) | 3.03 (0.80–11.48) | 0.102 |
| | Below primary (Ref.) | 11 (5.7) | 4 (1.9) | 1 | 1 | — |
| | | 96 (49.5) | 82 (39.8) | 1.14 (0.58–2.22) | 0.79 (0.31–2.01) | |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Monthly income (ETB)** | Less than 5000 | | | | | 0.615 |
| | 5,000–10,000 | 51 (26.3) | 28 (13.6) | | | |
| | 10,000–20,000 | 32 (16.5) | 41 (19.9) | 9.45 (2.21–40.34) | 1.46 (0.50–4.27) | 0.489 |
| | >20,000 | 15 (7.7) | 55 (26.7) | 1 | 3.74 (1.16–12.03) | 0.027 |
| **Occupation** | Unemployed | 80(41.2) | 77 (37.4) | 0.51 (0.28–0.91) | 0.11 (0.03–0.37) | <0.001 |
| | Employed | 114 (58.8) | 129 (62.6) | | 0.09 (0.02–0.38) | 0.001 |

*Table 3. Logistic Regression Analysis of Factors Associated with Attitude toward Antimicrobial Resistance*

# 7. DISCUSSION

This study assessed the community's knowledge and attitude toward antimicrobial resistance (AMR) and identified factors associated with knowledge among adults attending health centers in Nefas Silk Sub-City, Addis Ababa. The findings provide important information into community awareness and behavioral tendencies that influence antimicrobial use.

The study shows majority of the respondents (52.5%) demonstrated poor knowledge about antimicrobial resistance (AMR), while only 47.5% had good knowledge. This indicates that a substantial proportion of the community has insufficient understanding of AMR. Only 44.6% could correctly identify that antibiotics don not treat viral infections almost similar to other studies showing fewer than 40% of participants could correctly identify that antibiotics do not treat viral infections (21). In Europe, 50% or more of respondents believed antibiotics kill viruses or treat colds, and (22).

In Africa, awareness of AMR is also limited, with only 35% of respondents having heard of AMR and 28% able to correctly define it (24). In Ethiopia, previous studies reported that 17.7% of participants recognized that unnecessary antibiotic use enhances bacterial resistance, while 41.6% were aware that resistance could affect the entire community (31). Poor knowledge seen in the present study may be due to limited public health education, poor access to reliable

health information, and easy availability of antibiotics without prescriptions, which can encourage misuse and reinforce misconceptions.

The low level of knowledge observed in this study may be attributed to limited public health education campaigns, inadequate access to reliable health information, and misconceptions regarding the proper use of antibiotics. Furthermore, antibiotics are easily accessible in many community pharmacies without prescriptions, which may contribute to poor understanding and misuse.

Compared to knowledge participants with poor attitude were 48.5% lower than those with poor knowledge. It is higher from studies done in Nigeria and Egypt (28).

The presence of poor attitudes in almost half of the participants with limited knowledge may suggest that community members do not generally recognize resistance to antibiotics as a public health concern, making the condition of AMR concerning. This gap highlights the need for interventions.

Analysis done using multivariable logistic regression showed the main predictors of poor knowledge were education level, monthly income, and sex. Females were 2.3 times more likely to have inadequate knowledge than males.

The respondents who had poor knowledge was about 8.5-fold among those with lower education compared to higher level educated respondents showing the importance of education in being aware of and rational medication use which was similar to study done showing education has relation with poor knowledge. (12,30)

Also, a lower monthly income was also associated with having poor knowledge toward AMR compared with respondents who have higher monthly income. This trend may reflect lack of access to the information and services on healthcare in low-income groups.

On the other hand, age, occupation, and attitude had no significant relation with poor knowledge. The results of this study show that knowledge is influenced more by socioeconomic and educational factors. However, in a study done it shows occupation has significant relation to poor knowledge of AMR. (30)

Poor attitude was substantially correlated with occupation and monthly income. The likelihood of having a negative attitude was 3.7 times higher for those with low. Both participants who were unemployed and those who were working had a negative attitude 9 and 11 times more frequently than students respectively.

With $p>0.05$ for sex, age group, and educational attainment, the relationship with attitude was negligible. In two studies done it shows education and occupation had significant relations with education and occupation had significant relations to poor attitude. (12,30)

## 8. Limitations of the Study

The limitations of this study were first it being cross-sectional design, it could not find cause between First, being a cross-sectional design, it cannot establish causation between knowledge and the associated factors. The other limitation is that the data collected were self-reported, which may introduce social desirability bias, especially regarding attitude-related questions. The last limitation was that the findings may not fully represent the general community since the study is institution-based.

## 9.Strengths of the study

This study tried to identify Groups that were more likely to have unfavorable attitudes or insufficient by looking at the connections between sociodemographic traits and knowledge/attitude.

# 10. CONCLUSION AND RECOMMENDATIONS

## 10.1. Conclusion

The study shows more than half of the respondents showed poor knowledge and almost half had poor attitude toward antimicrobial resistance (AMR) and rational antibiotic use indicating a big gap.

Poor knowledge was associated with education level, monthly income, and sex. Poor attitude was associated with monthly income, and occupation showing the role of socioeconomic factors in shaping awareness and practices related to antibiotics.

The findings also identified critical gaps in community practices, including misconceptions about the need for prescriptions and appropriate antibiotic use.

## 10.2 Recommendations

Based on the study findings, the following recommendations are proposed:

A. For Health Authorities and Policymakers

Include AMR education into national and regional public health strategies.

Build antibiotic stewardship programs in the health system at all level.

Enforce existing regulations on prescription-only antibiotic sales to reduce misuse and self-medication.

Create awareness about AMR by working with media and community organizations and spread messages through accessible channels (radio, TV, and social media) and through campaigns.

B. For Health Professionals

Health professionals should be trained to provide routine patient education about appropriate use of antibiotics during consultations and pharmacy visits.

C. For the Community

Refrain from self-medication and never discontinue prescribed antibiotics before the course.

Seek medical advice before taking antibiotics and do not pressure providers for unnecessary prescriptions.

Engage proactively in community and public initiatives that encourage the safe and responsible use of antibiotics.

D. For Future Researchers

Widen this research by conducting community based study.

Explore knowledge–attitude–practice (KAP) dimensions to better understand behavioral factors influencing antibiotic use.

Assess the impact of awareness interventions over time through longitudinal or interventional research designs.

# 11.References


1. National Institutes of Health (NIH). (2022, April 5). In brief: What are microbes? https://www.nih.gov

2. Aminov, R. I. (2010). A brief history of the antibiotic era: Lessons learned and challenges for the future. Frontiers in Microbiology, 1, 134. https://doi.org/10.3389/fmicb.2010.00134

3. Ventola, C. L. (2015). The antibiotic resistance crisis: Part 1—Causes and threats. Pharmacy and Therapeutics, 40(4), 277–283.

4. Tadesse, Y. B., Kassaw, A. T., & Belachew, E. A. (2023). Evaluating self-medication practices in Ethiopia. Journal of Pharmaceutical Policy and Practice, 16(1), 47. https://doi.org/10.1186/s40545-023-00553-0

5. World Health Organization. (2023). Antimicrobial resistance: Fact sheet. https://www.who.int/news-room/fact-sheets/detail/antimicrobial-resistance

6. World Health Organization (WHO). (2015). Global Antimicrobial Resistance and Use Surveillance System (GLASS) report

7. Salam, M. A., Al-Amin, M. Y., Salam, T. M., et al. (2021). Antimicrobial resistance: A growing serious threat for global public health. Cureus, 13(8), e17603. https://doi.org/10.7759/cureus.17603

8. Murray, C. J., Ikuta, K. S., Sharara, F., et al. (2022). Global burden of bacterial antimicrobial resistance in 2019: A systematic analysis. The Lancet, 399(10325), 629–655. https://doi.org/10.1016/S0140-6736(21)02724-0

9. Okeke, I. N., Laxminarayan, R., Bhutta, Z. A., et al. (2010). Antimicrobial resistance in developing countries: Part I. The Lancet Infectious Diseases, 10(8), 597–603.

10. Ayukekbong, J. A., Ntemgwa, M., & Atabe, A. N. (2017). The threat of antimicrobial resistance in developing countries: Causes and control strategies. Antimicrobial Resistance & Infection Control, 6, 47. https://doi.org/10.1186/s13756-017-0208-x

11. Moges, F., Endris, M., & Belyhun, Y. (2021). Prevalence of antimicrobial resistance and its clinical implications in Ethiopia. BMC Infectious Diseases, 21, 1060.

12. Mengesha, Y., Manaye, B., & Moges, G. (2020). Assessment of public awareness, attitude, and practice regarding antibiotic resistance in Kemissie Town, Northeast Ethiopia: A community-based cross-sectional study. Infection and Drug Resistance, 13, 3783–3789. https://doi.org/10.2147/IDR.S280036

13. Baye Sitotaw 1, Workneh Philipos Knowledge, Attitude, and Practices (KAP) on Antibiotic Use and Disposal Ways in Sidama Region, Ethiopia: A Community-Based Cross-Sectional Survey

14. O'Neill, J. (2016). Tackling drug-resistant infections globally: Final report and recommendations. Review on Antimicrobial Resistance.

15. Biruk Alemu Gemeda 1 2, Ayalew Assefa 3, Megarsa Bedasa Jaleta 2, Kebede Amenu 2, Barbara Wieland 1 Antimicrobial resistance in Ethiopia: A systematic review and meta-analysis of prevalence in foods, food handlers, animals, and the environment PMID: 34258373 PMCID: PMC8260865 DOI: 10.1016/j.onehlt.2021.100286

16. Klein, E. Y., Van Boeckel, T. P., Martinez, E. M., et al. (2018). Global increase and geographic convergence in antibiotic consumption between 2000 and 2015. Proceedings of the National Academy of Sciences, 115(15), E3463–E3470

17. Fuller, W., Kapona, O., Aboderin, A. O., et al. (2023). Education and awareness on antimicrobial resistance in the WHO African Region: A systematic review. Antibiotics, 12(11), 1613. https://doi.org/10.3390/antibiotics12111613

18. Seid, M. A., & Hussen, M. S. (2018). Knowledge and attitude towards AMR among final year undergraduate paramedical students at University of Gondar in Ethiopia. BMC Research Notes, 11, 232. https://doi.org/10.1186/s13104-018-3337-x

19. Tadesse, B. T., Ashley, E. A., Ongarello, S., et al. (2017). Antimicrobial resistance in Africa: A systematic review. BMC Infectious Diseases, 17, 616.

20. Uddin, T. M., Chakraborty, A. J., Khusro, A., et al. (2024). Prevalence, risk factors, and antimicrobial resistance of healthcare-associated infections in Africa. Journal of Global Health, 14, 04070.

21. Fouz, N., Pangesti, K. N. A., Yasir, M., et al. (2020). The contribution of wastewater to the transmission of antimicrobial resistance in the environment. Environmental Pollution, 266(Pt 3), 115194.

22. Aslam, B., Khurshid, M., Arshad, M. I., et al. (2021). Public knowledge and practices regarding antibiotic use. PLoS ONE, 16(2), e0244927. https://doi.org/10.1371/journal.pone.0244927

23. Tran, K., Hawkins, D. N., & Jacobsen, K. H. (2020). Knowledge, attitudes, and practices related to antimicrobial resistance among undergraduate students at a large public university. Antibiotics, 9(8), 279. https://doi.org/10.3390/antibiotics9080279

24. Singh-Phulgenda, S., Antoniou, P., Lo Fo Wong, D., et al. (2023). Public knowledge, attitudes and practices regarding antimicrobial resistance across 14 WHO European countries. Antimicrobial Resistance & Infection Control, 12, 34.

25. Atalay, Y. A., & Gelaw, K. A. (2023). Prevalence of knowledge, attitudes, and practices regarding antimicrobial resistance in Africa: A systematic review and meta-analysis. PLOS Global Public Health, 3(2), e0001457

26. Mostafa, A., Abdelzaher, A., Rashed, S., et al. (2023) Is health literacy associated with antibiotic use, knowledge and awareness of antimicrobial resistance among non-medical university students in Egypt? A cross-sectional study (2), 143–153

27. Mesafint, E., Wondwosen, Y., Dagnaw, G. G., et al. (2023). Study on knowledge, attitudes and behavioral practices of antimicrobial usage and resistance in animals and humans in Bahir Dar City, Northwest Ethiopia. BMC Public Health, 23, 723.

28. Gashaw, T., Yadeta, T. A., Weldegebreal, F., Demissie, L., Jambo, A., & Assefa, N. (2025). The global prevalence of antibiotic self-medication among the adult population: Systematic review and meta-analysis. Systematic Reviews, 14(1), 49. https://doi.org/10.1186/s13643-025-02783-6

29. World Health Organization. (2024, September 19). People's knowledge, attitudes and behaviours pertaining to antimicrobial resistance: Cross-sectional survey of 14 Member States in the WHO European Region.

30. Kindu Geta , Mulugeta Kibret Knowledge, Attitudes and Practices of Patients on Antibiotic Resistance and Use in Public Hospitals of Amhara Regional State, Northwestern Ethiopia: A Cross-Sectional Study PMCID: PMC8799925 PMID: 35115790

## 6. Annexes : Participant information sheet and informed consent form

Good morning/afternoon dear participant! My name is _____.

I am working as a data collector for the study being conducted in this institution on the knowledge and attitude of Antimicrobial resistance on clients that present at Nefas silk subcity health centers,Addis Ababa Ethiopia for Dr.Esete Getachew, who is studying for her postgraduate degree. I kindly request you to lend me your attention to explain about the study and being you selected as the study participant.

The purpose of the study is to identify the knowledge and attitude of Antimicrobial resistance among clients that present at Nefas sillk subcity health centers.Findings from the study can be used by the health bureau to design and develop plan to implement awareness creation and educating the commmunity about Antimicrobial resistance.This may take 30 minutes. All the information that you are going to provide me will remain confidential and you don't need to mention your name. For this reason, I kindly request you to give me your sincere and truthful answer.

All of your participation is completely on voluntary bases and you have the right to refuse from participation. Participation or non-participation and refusal to answer questions will have no effect on your life.

**Contact address:** If at any case you want to know more information about the research and its undertakings, you can contact the committee through the address of advisor and /or principal investigator.

**Principal investigator: Dr.Esete Getachew**

Section 1: Demographic Information

Consent form English version

I have read all the process and objective of this study and have understood well about the purpose, advantage and disadvantage of this study titled magnitude of depression and associated factors of depression amongst patients with diabetes mellitus at public health facilities in Addis Ababa Ethiopia. I also understood that the research imposes no risk and no composition would be provided to me. I have been told that if I fill discomfort to respond to any of the questions I fill free to drop it any time I wish to do I have understood the information given and the participation is completely voluntary based.

I have been told that my answer to the question will not be given to anyone and not expect to write my name .now I am giving my consent to participate in the study voluntarily. Could I have your permission to continue?

1. Yes 2.No

Witness signature ----------date----------

Data collector Name---------- signature ----------date----------

1)Age: _____

2)Gender:

☐ Male

☐ Female

3)Education Level:

☐ No formal education

☐ Primary education

☐ Secondary education

☐ Diploma or Degree

4)Monthly Income (Please indicate the approximate monthly income):

☐ Less than 5,000 ETB

☐ 5,000 - 10,000 ETB

☐ 10,000 - 20,000 ETB

☐ More than 20,000 ETB

5)Occupation:

☐ Student

☐ Unemployed

☐ Employed (specify): _____

Section 2: Knowledge of Antibiotic Resistance

1)Antimicrobial resistance (AMR) occurs when bacteria become resistant to the antibiotics used to treat infections.

☐ Yes

☐ No

2) Antibiotics can be used for viral infections also

☐ Yes

☐ No

3)Practices like discontinuing medications before the recommended time can contribute to antimicrobial resistance.

☐ Yes

☐ No

4)Using antibiotics when not prescribed or using leftover antibiotics can lead to AMR.

☐ Yes

☐ No

5)I have knowledge of long term affect of AMR

☐ Yes

☐ No

6)antibiotic resistance can spread from one person to another.

☐ Yes

☐ No

Section 3: Attitude

1) I always follow the healthcare provider's instructions on how and when to take them.

☐ Always

☐ Sometimes

☐ Never

2)I believe that I can discontinue  antibiotics when I feel better

☐ Strongly Disagree

☐ Disagree

☐ Neutral

☐ Agree

☐ Strongly Agree

3)I know that antibiotics should only be taken when prescribed by a healthcare provider for a specific infection.

☐ Strongly Disagree

☐ Disagree

☐ Neutral

☐ Agree

☐ Strongly Agree

4)I believe improper use,  improper sanitation and hygiene can contribute to the spread of antibiotic-resistant infections.

☐ Strongly Disagree

☐ Disagree

☐ Neutral

☐ Agree

☐ Strongly Agree

5)I believe that easy access to antibiotics contributes to antibiotic resistance.

☐ Strongly Disagree

☐ Disagree

☐ Neutral

☐ Agree

☐ Strongly Agree

6)I am concerned about the overuse of antibiotics in animals contributing to antibiotic resistance.

☐ Strongly Disagree

☐ Disagree

☐ Neutral

☐ Agree

☐ Strongly Agree

1.የመረጃ ቅጽ

ሰላምታ፡-ጤናይስጥልኝ!!እኔ__እባላለሁ፡፡ይህ ጥናት የማካሄደው ተማሪ ስሆን በጥቁር አንበሳ ኮሌጅ እና በአዲሳ አበባጤናቢሮ ሙሉ ፈቃድ ታግዜ መመረቂያ ጽሁፌን የፀረ-ተህዋሲያንመድሀኒቶችበጀርሞችመለመድ(AMR)እውቀትአመለካከትላያ ማደረግ ያሆናል ። ከጥናቱ የሚገኘው ውጤት/ግኝት የፀረ-ተህዋሲያንመድሀኒቶችበጀርሞችመለመድ(AMR) ለህብረተሰቡ ግንዛቤ የመስጠትንስራ ያበረታታል በተጨማሪም የጥናቱ ባለቤት በኮሌጁ የሁለተኛ ዲግሪያቸውን ለማግኘት እንደማሚያ ፅሑፍ በመሆን ይረዳል፡፡ይህን መጠይቅ ለመሙላት ከ30 ደቂቃ የሚወስድ ሲሆን በዚህ ቃለ መጠይቅ ፈቃደኛ ካልሆኑ ያለመሳተፍ መብትዎ የተጠበቀ ነው ። እርስዎ በዚህ ጥናት ተሳታፊ በመሆንዎ በቀጥታ ሊያገኙ የሚችሉት ነገር ላይኖር ይችላል፤ነገርግን የእርስዎ ተሳትፎ በአገልግሎቱ አጠቃቀም እና ምክንያት ዙሪያ ያሉ ችግሮች ወይም ክፍተቶች ለማሳየት እና ትክክለኛ የመፍትሔ አቅጣጫ ለመጠቆም እጅግ አስፈላጊ ነው፡፡ ጥናቱ ውጤታማ ሊሆን የሚችለው እርሶ በሚሰጡት ትክክለኛ መልስ ላይ የተመረኮዘ በመሆኑ፤ጥያቄዎቹን በጥንቃቄ እንዲመልሱልን ፍቃደኝነትዎን በትህትና እንጠይቃለን፡፡ በተጨማሪም የሚሰጡት መረጃ ከተባለለት ጉዳይ ውጪ እንደማይውል እና ሚስጥራዊነቱ የተጠበቀ እንደሚሆን አረጋግጣለሁ፡፡በቃለ-መጠይቅ ወቅት ለእርስዎ ግልጽ ያልሆነ ነገር ካለመጠየቅ ይችላሉ፡፡ለመመለስ ፈቃደኛ ያልሆኑበት ጥያቄ ካለም ማለፍ ይችላሉ፡፡በየትኛዉም ምክንያት በመጠይቁ መሃል ማቋረጥ ቢፈልጉ ጥያቄዉን የማቋረጥ መብት አለዎት፡፡ እርሶም በዚህ ጥናት በመሳተፎ ከልብ እናመሰግናለን!!!!!!

የስምምነትቅጽ

ከላይ የተፃፈውን የመረጃ ቅፅ አንብቤ የጥናቱን አላማና ጥቅም በግልጽ ተረድቻለሁ፡፡ በዚህም መሰረትያለጥናትቡድኑአባላትተፅእኖበሙሉፈቃደኝነትበዚሁጥናትበመሳተፍበሆስፒታሉ ያለውየድባቴ መጠን ተያያዥ ጉዳዮች ዙሪያ ያለው ሁኔታ ለመለየት በሚደረገው ጥናት ላይ የሚጠበቅብኝን አስተዋፅኦ ለማበርከት መወሰኔን በፊርማዬ አረጋግጣለሁ፡፡

የተሳታፊው ቁጥር

_____ፊርማ_____ቀን

_____የመረጃ ሰብሳቢ ሥም

_____ፊርማ

_____

መረጃ የተሰበሰበበት ቀን_____የተጀመረበትሠዓት

_____ያለቀበትሰዓት

_____የተቆጣጣ ሥም

_____ፊርማ_____ቀን_____

_____የመጠይቁውጤት

ክፍል 1: የስነ-ሕዝብ መረጃ

1) ዕድሜ: _____

2) ጸታ፡
☐ ወንድ
☐ ሴት

3) የትምህርት ደረጃ፡-
☐ ምንም መደበኛ ትምህርት የለም
☐ የመጀመሪያ ደረጃ ትምህርት
☐ ሁለተኛ ደረጃ ትምህርት
☐ ዲፕሎማ ወይም ዲግሪ

4) ወርሃዊ ገቢ (እባክዎ ግምታዊውን ወርሃዊ ገቢ ያመለክታሉ)፡-
☐ ከ5,000 ETB በታች።
☐ 5,000 - 10,000 ETB
☐ 10,000 - 20,000 ETB
☐ ከ20,000 ETB በላይ።

5) ሥራ፡
☐ ተማሪ
☐ ሥራ አጥ
☐ ተቀጥሮ (ይግለጹ)

ክፍል 2: የአንቲባዮቲክ መቋቋም እውቀት

1) የፀረ-ተህዋሲያንመድሀኒቶችበጀርሞችመለመድ (AMR) የሚከሰተው ባክቴሪያዎች( ተህዋሲያን)ኢንፌክሽኖችን ለማከም ጥቅም ላይ የሚውሉትንየፀረ-ተህዋሲያን መድሀኒቶች(አንቲባዮቲኮች) ሲቋቋሙ ነው።
☐ አዎ
☐ አይደለም
2) የፀረ-ተህዋሲያንመድሀኒቶች(አንቲባዮቲኮች) ለቫይረስ ኢንፌክሽኖችም ሊያገለግሉ ይችላሉ።
☐ አዎ
☐ አይደለም
3) ከተመከረው ጊዜ በፊት መድሃኒቶችን ማቋረጥን የመሳሰሉ ልምዶች ለፀረ-ተህዋሲያንመድሀኒቶችበጀርሞችመላመድ አስተዋፅኦ ያደርጋሉ.
☐ አዎ
☐ አይደለም

4) ፀረ-ተህዋሲያንመድሀኒቶች(አንቲባዮቲኮችን) ካለትዛዝ ወይም የተረፈንፀረ-ተህዋሲያንመድሀኒቶች( አንቲባዮቲክ) መጠቀም ወደፀረ-ተህዋሲያንመድሀኒቶችበጀርሞችመላመድ( AMR) ሊያመራ ይችላል።
☐ አዎ
☐ አይደለም

5) ስለ ፀረ-ተህዋሲያንመድሀኒቶችበጀርሞችመላመድ(AMR) የረጅም ጊዜ ተፅእኖ እውቀት አለኝ።
☐ አዎ
☐ አይደለም
6) ፀረ-ተህዋሲያንመድሀኒቶችበጀርሞችመላመድ(AMR) ከአንድ ሰው ወደ ሌላ ሊተላለፍ ይችላል.
☐ አዎ
☐ አይደለም

ክፍል 3: አመለካከት
1) እንዴት እና መቼ እንደምወስዳቸው ሁልጊዜ የጤና ባለሙያን መመሪያ እከተላለሁ።
☐ ሁል ጊዜ
☐ አንዳንድ ጊዜ
☐ መችም
2) ጥሩ ስሜት ሲሰማኝ ፀረ-ተህዋሲያንመድሀኒቶች(አንቲባዮቲኮችን) ማቆም እንደሚቻል አምናለሁ።

☐ በጣም እስማማለሁ

☐ እስማማለሁ

☐ መካከለኛ ነኝ

☐ አልስማምም

☐ በጣም አልስማምም

3) ፀረ-ተህዋሲያንመድሀኒቶች(አንቲባዮቲኮች) መወሰድ ያለባቸው ለአንድ የተወሰነ ኢንፌክሽን በጤና ባለሙያእንክብካቤ አቅራቢ ሲታዘዙ ብቻ እንደሆነ አውቃለሁ።

☐ በጣም እስማማለሁ

☐ እስማማለሁ

☐ መካከለኛ ነኝ

☐ አልስማምም

☐ በጣም አልስማምም
4) ተገቢ ያልሆነ አጠቃቀም፣ ተገቢ ያልሆነ የንፅህና አጠባበቅፀረ-ተህዋሲያንመድሀኒቶችበጀርሞችመላመድ( AMR) እንዲስፋፋ አስተዋጽኦ ያደርጋሉ ብዬ አምናለሁ።

☐ በጣም እስማማለሁ

☐ እስማማለሁ

☐ መካከለኛ ነኝ

☐ አልስማምም

☐ በጣም አልስማምም

5) ፀረ-ተህዋሲያንመድሀኒቶችን(አንቲባዮቲኮች) በቀላሉ ማግኘትፀረ-ተህዋሲያንመድሀኒቶችበጀርሞችለመላመድ( AMR) አስተዋፅኦ እንደሚያደርግ አምናለሁ.

☐ በጣም እስማማለሁ

☐ እስማማለሁ

☐ መካከለኛ ነኝ

☐ አልስማምም

☐ በጣም አልስማምም

6) ፀረ-ተህዋሲያንመድሀኒቶችን( አንቲባዮቲክን) ከመጠን በላይበእንስሳቶችለይ መጠቀም ለፀረ-ተህዋሲያንመድሀኒቶችበጀርሞችለመላመድ( AMR) አስተዋፅያ ያደርጋልብይያሳስበኛል።

☐ በጣም እስማማለሁ

☐ እስማማለሁ

☐ መካከለኛ ነኝ

☐ አልስማምም

☐ በጣም አልስማምም