CORONAVIRUS DISEASE 2019 VACCINE ACCEPTANCE AND ASSOCIATED FACTORS AMONG JIMMA TOWN COMMUNITY, OROMIA REGION, ETHIOPIA, 2022

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ABSTRACT

Introduction*: The COVID-19 vaccine is regarded as a crucial and affordable component of management and prevention measures for the disease. Due to the COVID-19 vaccine's lower level of public acceptance, the entire world has experienced difficulties, including Ethiopia. Although substantial progress is being made, there are still significant obstacles to public acceptance. However, determining the magnitude of COVID-19 vaccine acceptance in Jimma town has not been done up to yet.*

Objective*: This study aims to assess COVID-19 vaccine acceptance and associated factors among communities in Jimma Town, Oromia region, Ethiopia.*

Methods: *A community-based cross-sectional study was conducted among 629 adults in Jimma town from July 15 to August 15, 2022. A multistage sampling technique was employed to get a representative sample. Face-to-face interviews were used to collect data. The collected data were checked, coded, and entered in Epi-data version 4.6 and exported to Statistical Package for Social Science (SPSS) version 25 for analysis. Bivariable and multivariable logistic regression was done to identify factors associated with COVID-19 vaccine acceptance; a p-value < 0.05 was considered statistically significant. Finally, the results were presented with tables, figures, and text.*

Results: *A total of 607 participants completed the study which gives a 96.5% of response rate. More than half (54%) (95% CI: 48.8–58) of the study participants were willing to have the COVID-19 vaccination. source of information from international media (foreign channels) (AOR = 1.602; CI: 1.027, 2.500; P = 0.038) and colleagues and friends (AOR = 1.923; CI: 1.176, 3.145; P = 0.009), Perceived severity (AOR = 1.751; CI: 1.171, 2.616; P = 0.006), perceived barriers (AOR = 2.580; CI: 1.740, 3.825; P = 0.001), perceived benefits (AOR = 2.501; CI: 1.699, 3.683; P = 0.001), self-efficacy (AOR = 1.476; CI: 1.021, 2.133; P = 0.038)), good knowledge (AOR = 1.523; CI: 1.042, 2.227; P= 0.030), and favorable attitude (AOR = 2.222; CI: 1.510, 3.270; P= 0.001) was positively associated with willingness of COVID-19 vaccine acceptance.*

Conclusion: *More than half of study participants were accepting when a COVID-19 vaccine is available in Ethiopia. Therefore, multipronged efforts are needed to build vaccine literacy and confidence to increase the acceptance of the COVID-19 vaccine.*

Keywords*: COVID-19, Vaccine acceptance, vaccine hesitancy, Community.*

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ABBREVIATIONS AND ACRONYMS

COVID-19	Coronavirus Disease 2019
CVC	COVID-19 Vaccination Centers
HBM	Health Belief Model
HHs	Households
HPs	Health Care Professionals
NCov	Novel Corona Virus
RNA	Ribo Nucleic Acid
SARS COV-2	Sever Acute Respiratory Syndrome-Coronavirus-2
SSA	Sub-Saharan Africa
USA	United States of America
W H O	World Health Organization

CHAPTER ONE: INTRODUCTION

1.1. Background

Coronavirus disease 2019 (COVID-19) is a group of related ribonucleic acid (RNA) viruses caused by a new strain of coronavirus called severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (1). The first human cases of COVID-19 caused by SARS-CoV-2 were reported from Wuhan City, China, in December 2019 (2). It is a very fast-spreading respiratory disease, and the outbreak was declared a public health emergency by the World Health Organization (WHO) on January 30, 2020 (3). Since then, COVID-19 has been disseminated throughout the world, and still, morbidity and mortality have been rising (4,5).

Prevention measures such as hand hygiene, social distancing, travel restrictions, face mask-wearing, quarantine, lockdown, and early detection and treatment of cases played a key role in preventing the pandemic (6). Despite the efforts made by countries, morbidities and mortalities continued to climb (7). Thus, to fight the pandemic, researchers from all over the world have made remarkable efforts to create vaccines against the disease (8).

Several vaccines to prevent COVID-19 infection were approved in December 2020 (9). In various nations, at least seven different vaccines have been rolled out over three different platforms. Approximately 100 vaccine candidates are at various stages of the investigation, and three new clinically significant mutant versions of the virus have been identified around the world (10). Simultaneously, more than 200 additional vaccine candidates are being produced, with more than 60 of them in clinical trials (11). Vaccines are known to reduce morbidity and mortality in the general population and the vulnerable group, including immune suppression, advanced age, and comorbidities (12,13).

On March 7, 2021, Ethiopia received 2.184 million doses of the Astra Zeneca COVID-19 vaccine, and on March 13, 2021, the Ministry of Health of Ethiopia launched the COVID-19 vaccine introduction in a high-level national event held at Eka Kotebe COVID-19 Hospital, where frontline health workers were vaccinated to mark the beginning of the vaccination campaign (11,14).

Understanding the community's readiness to receive the COVID-19 vaccination, as well as the major factors affecting their acceptance, will contribute to the efficient implementation of the COVID-19 vaccination (15).

1.2. Statement of the Problem

The coronavirus disease (COVID-19) pandemic is an unmatched crisis and challenge for all nations; it affects six continents and has spread to 228 countries and territories around the world (16). So far, as of November 2022, there have been 639,479,824 confirmed cases; the USA, India, and France are the leading three countries with the highest cumulative number of cases (17). WHO estimates that the total death toll associated directly or indirectly with the COVID-19 pandemic (described as "excess mortality") between 1 January 2020 and 31 December 2021 was approximately 14.9 million (ranging from 13.3 million to 16.6 million) (18).

WHO's African region reported that 47 countries were affected, with 8,607,351 cumulative cases and 172,179 deaths so far (19). Ethiopia recorded its first COVID-19 on March 13, 2020, in Addis Ababa. So far, 494,428 cases and 7,572 deaths have been reported in the country (20).

This highly contagious virus has exposed, divided, fostered distrust, increased inequality, and heightened trade tensions around the world, spreading like wildfire and aided by misinformation. The COVID-19 pandemic has frightened the human species all over the world. Progress in social activities, education, health care, and other services has been hampered (21).

COVID-19 causes a wide variety of illnesses, ranging from self-limiting respiratory tract illness to multi-organ failure and death (22). Pre-existing co-morbidities such as cardiovascular diseases, cancer, chronic respiratory diseases, chronic kidney disease, immune-compromised states, and diabetes have been shown to increase the risk of morbidity and mortality related to the disease (23). Furthermore, the risk of dying was higher among older adults with pre-existing comorbidities (24).

In addition, the impact of COVID-19 also has devastating healthcare systems, social effects, and significant economic consequences (25). It has resulted in a significant decline in the workforce and a rise in global unemployment. These negative concerns have prompted pharmaceutical firms to produce a vaccine as soon as possible (9,25).

The COVID-19 infection presently has no therapy, but several vaccines for emergency immunization have been developed and approved. Countless billions of dollars have been spent by countries and governments around the world planning to immunize their populations (26).

Vaccines have been a successful measure of disease prevention for decades (27). During the pandemic, acceptance of a COVID-19 vaccine as it becomes available has varied greatly from country to country. Across the globe, public acceptance of using a COVID-19 vaccine varied significantly from 58% to 86% (28–30). The pooled prevalence of COVID-19 vaccine acceptance was 73.16% (31). In addition, the willingness for the COVID-19 vaccine in Africa ranged from 43.5% to 82% (32). In Ethiopia, the level of COVID-19 vaccine acceptance ranged from 31.4% to 56.02% among the general population (33,34) and 53.1% of health care professionals (HPs) willing to accept the COVID-19 vaccines (35).

The need for a vaccine is already being contested by anti-vaccination campaigners in several nations, with some of them even disputing the existence of COVID-19. The transmission of false information via various sources could significantly affect how well a COVID-19 vaccination is received. The rapid pace of vaccine development has increased public apprehension and jeopardized acceptance (36).

The community's attitude toward COVID-19 and its preventative measures has a significant impact on how closely they adhere to preventive control measures. Since Ethiopian society is susceptible to COVID-19, it is important to address this health belief and the risk perception gap to slow the spread of the disease. The causes of vaccine hesitation, as described in various studies, include religious considerations, personal convictions, and safety worries resulting from pervasive falsehoods, such as the link between vaccines and illnesses like autism, brain damage, and others (37).

Identifying the causes of vaccine refusal or hesitancy may help to increase vaccination willingness in the general population. If we are to overcome these hurdles, we must first gain a deeper understanding of the rationales and reasons for vaccination refusal or reluctance.

Ethiopia is one of the countries which are severely affected by the pandemic. However, determining the magnitude of COVID-19 vaccine acceptance in Jimma town has not been done up to yet. The previous studies done in the country are fragmented and incongruent with variables, therefore, this study, on the other hand, use a health belief model and a larger sample size than the previous studies to detect associations, which may provide us with additional information. Thus, the main aim of this study is to investigate the magnitude of COVID-19 vaccine acceptance and associated factors in the Jimma town community using the health belief model.

1.3 Significance of the study

Factors associated with COVID-19 vaccine acceptance among the Jimma Town community were not well understood. This study would address this gap by identifying the level of COVID-19 vaccine acceptance and associated factors among the general population. Understanding the level of COVID-19 vaccine acceptance is important for the community, policymakers, program managers, and service providers. The findings of this study will be useful to local policymakers, administrators, managers, and healthcare workers as they plan and implement COVID-19 vaccination, and it will be an input for further studies and health care institutions.

CHAPTER TWO: LITERATURE REVIEW

2.1. Overview of COVID-19 vaccine

Several scientific research groups and vaccine manufacturers collaborated for more than two years after the viral pandemic to successfully develop a variety of COVID-19 vaccines. Seven vaccines have been granted WHO emergency use approval for use in mass immunization on a worldwide scale, while more than 300 vaccinations are presently being produced in pre-clinical or clinical trial phases (38).

2.2. Magnitude of COVID-19 vaccine acceptance

The acceptance of the COVID-19 vaccination varied by country, with those living in high-income countries having the highest acceptance rate (70.2%), while those living in lower-middle-income countries had the lowest acceptance rate (57.4%) (39). The magnitude of vaccination acceptance in Latin countries revealed that Ecuador (71.9% - 97%) (40,41), Brazil (85.4%), Mexico (76.3%), and Chile (49%) (42).

Studies from Northern America and European countries show that COVID-19 vaccine acceptance ranges from 53.7% to 90.1% (40,43). For instance, Denmark (80.0%) (43), UK (64.0–90.1%) (40,43), Portugal (75%), Netherlands (73%) (43), Germany (68.4–70%) (40,43), Canada (68.7–80.0%) (40,44), Turkey (69.0%) (45), Spain (74.3%), Sweden (65.2%), Poland (56.3%), Russia (54.9%) (40), the United States (56.9–75.4%) (40,44), and Italy (53.7 - 77.3) (40,43) and in Australia (77.3%) (46). The lowest levels of vaccine acceptance were observed in Central France (47 %) and Hungary (47 %) (47).

In most Asian countries, it's observed that there were increasing levels of vaccine acceptance throughout the pandemic as COVID-19 vaccines were being approved and rolled out. such as in China, public acceptance of COVID-19 vaccination rages 72.6-91.3% (40,48), in Indonesia (93.3%) (49), Israel (75%) (50), Malaysia (94.3%) (13), India (74.5%), Singapore (67.9%), South Korea (79.8%) (40) and in Bangladesh, (61%) were inclined to accept/take the COVID-19 vaccine, Of those, 64.86 % said they would wait until the vaccine's efficacy and safety were established (51). Also, a study done in 22 Arab countries reported that 62.4% were compliant with the COVID-19 vaccination.

In Sub-Saharan countries according to the survey Uganda 84.5%, Malawi 82.7%, Burkina Faso 79.5% (52), South Africa (81.6%), Nigeria (65.2%) (40), Zambia (33.4%) (53), and in Ethiopia the pooled prevalence's of COVID-19 vaccine acceptance was 51.64% to 57.8%

according to systematic reviews and meta-analysis (54,55), 31.3% in SNNPR, 35.6% Eastern Ethiopia (56), 26.7% in Dire Dewa (57) 80.9% in Addis Ababa (58). 70.7% in South western Ethiopia (56).

2.3. Factors affecting COVID-19 vaccine acceptance

2.3.1. Socio-demographic characteristics

According to study conducted in Malaysians about vaccine acceptance from 19 countries, women accounted for 53.5% of the study population, more than a third of the respondents (36.3%) had a university degree, and 62.4% were between 25 and 54 years old (36). From the study conducted in Malaysia and Zambia, 40.7% of the participants were young adults (18-29 years old), Muslim (72.3%), married (52.9%), and had tertiary education (86.2%); 25.4 % were students by their occupation (26,60).

According to various studies, public acceptance of the COVID-19 vaccine was related to age, gender, religion, level of education, occupation, income, and family size (61). In contrast, some studies have found that sociodemographic factors such as age and educational level have no significant relationship with vaccine acceptance (62).

According to the study results from Zambia, adults 41 years and older were more likely to accept the COVID-19 vaccine compared to the 18- to 23-year-old age group. Entrepreneurs were less likely to accept vaccination than government workers.

According to a systematic review in Ethiopia, being male and having secondary or higher educational status made people more likely to accept the COVID-19 vaccine (55,63). Another study from Wolaita Sodo of Ethiopia found that sex, educational status, mass media, family members diagnosed with COVID-19, were significantly associated with COVID-19 vaccine acceptance (64).

2.3.2. Personal and Covid-19 experience related factor

According to the findings of the Zambian study, 99.9% of the study participants were aware of the COVID-19 vaccines. However, 31% were unaware that the COVID-19 vaccine reduced virus transmission, 55.8% were unaware that the COVID-19 vaccine had gone through all stages to ensure its safety, and 33.4 percent were vaccinated to protect themselves from COVID-19 (60).

According to a study conducted in China, people who closely followed media news on the COVID-19 vaccine looked forward to successful vaccine research, closely followed vaccine

protective efficacy, and expressed greater interest in being vaccinated than others (65). Furthermore, people who focused on the vaccine's protective efficacy, vaccine price, and expert opinion were more likely to accept the COVID-19 vaccination than people who focused on vaccine safety (66).

Study findings from Pakistan revealed that public announcements in residential areas and religious gatherings have been utilized to encourage people to get immunized against COVID-19 (67). Behavioral and communication strategies such as mass distribution of vaccination messages via mobile phone ringtones and enlisting celebrities and political figures to share their own vaccination experiences as well as basic vaccine information (68). In an Indonesian survey participants said the lack of more information was a barrier (49).

A higher knowledge scale, a higher fear of contracting COVID-19 infection, and receiving or wanting to receive influenza vaccine were all positive predictors of COVID-19 vaccine acceptance in the Lebanese survey (69). Also, studies mentioned lack of trust (47), the belief vaccine has no use (58), the fear of side effects (70), and adverse effects (71) which can range from modest pain at the injection site to severe health concerns like blood clotting (22,68), a lack of concern about COVID-19; and safety, lack of information, effectiveness and religious and cultural factors (70) as a reason for vaccination hesitancy or rejection.

According to a study conducted in Ethiopia Gurage Zone, the levels of good knowledge, positive attitude, and willingness to accept the COVID-19 vaccine were 74 %, 44.75%, and 62.6%, respectively (72). The main barriers to vaccination were 24% believe that vaccines are useless, and 17.9% believe that vaccines cause blood clots (68).

Again, in another study from Ethiopia, those with good knowledge, a positive attitude, good COVID-19 preventive practices, and a perception of COVID-19 seriousness were more likely to accept the vaccine (68,73). Furthermore, media access and knowledge of the COVID-19 vaccine are linked to acceptance of the COVID-19 vaccine (72,74).

2.3.3. Medical Condition and Lifestyle-related factors

According to study findings from Malaysia, 85% of the respondents who accepted COVID-19 vaccines had no known medical illness but had hypercholesterolemia (13.3%), hypertension (12.8%), diabetes mellitus (6.9%), respiratory disorder (4%), heart disease (2%), renal disorder (1.3%), and cancer (0.6%) (26).

Studies in Ethiopia showed that the likelihood of COVID-19 vaccine acceptance was higher among participants who had a history of chronic disease (72,73). Having hypertension, and

not having a food allergy (69). Respondents with diabetes mellitus and hypercholesterolemia were more hesitant to accept the COVID-19 vaccine (75).

Those who either personally tested positive for COVID-19, or had a family member who did so, were more likely to accept vaccination (74,76). Receiving any vaccination during childhood (74) and having previous vaccination experience after age 18 (51) were found to be associated with vaccine acceptance (62).

Additionally, smoking is a proven risk factor for serious illness and fatal respiratory infections (77). COVID-19 may provide special dangers to cigarette smokers since it is a pulmonary condition. According to studies, smokers had a higher risk of hospitalization and serious illness from COVID-19 than non-smokers and they are more susceptible to COVID-19, or having worse health outcomes due to smoking (78).

2.3.4. Constructs of Health belief Model

The Health Belief Model is one of the most widely used models for understanding vaccination behavior against COVID-19 disease. According to the research findings from Hong Kong, Respondents who perceived higher susceptibility to COVID-19 infection perceived higher severity of COVID-19 to their health, perceived greater benefits of the vaccine, and perceived cues to action were significantly more likely to indicate vaccine acceptance, and Participants who perceived higher access barriers to receiving the vaccine and greater harm of the vaccine were less likely to express acceptance (79). According to different studies from different countries China (78,80), Hong Kong(81), the United State of America (82), the Iranian Republic (83), Vietnam (84), And from Eastern Ethiopia (56) most of the HBM constructs were found to be significantly associated with vaccine acceptance.

COVID-19 vaccines Acceptance was associated with perceived risk of future COVID-19 infection, perceived severity of infection, and having more knowledge about COVID-19 and vaccination (51). Those who understood how the COVID-19 vaccine reduces virus transmission were also more likely to accept the vaccine (53).

In particular, perceived severity, barrier, benefit, and perceived self-efficacy were positively associated with willingness of accepting the COVID-19 vaccine (85).

2.4. Conceptual Framework

The Health Belief Model (HBM) has been adapted as a conceptual framework that was extensively evaluated empirically (86). It empowers researchers to explain and predict health-promoting behavior in terms of patterns of belief by addressing the association between health behaviors and other factors (87). The conceptual framework was developed after reviewing different literature on factors associated with COVID-19 vaccine acceptance in different parts of the world (51,62,68,72,88–90). The line that connects the dependent variable with the independent variables shows the linkage between those variables.

Medical and Life style related factors
- o Preexisting Chronic disease
- o Smoking cigarette

Personal Factors
- ✓ Knowledge about COVID 19 vaccine
- ✓ Attitude towards COVID-19 Vaccination acceptance
- ✓ Source of information

Socio demographic factors
- ✓ Age
- ✓ Education status
- ✓ Marital status
- ✓ Occupation
- ✓ Religion
- ✓ Income
- ✓ Health insurance

COVID-19 vaccine Acceptance

Covid-19 experience related factor
- ✓ Contact with COVID-19 patient
- ✓ History of any
  - o Family members
  - o Member of household
  - o Relatives and
  - o Friends have been diagnosed with COVID-19)
  - o History of Covid-19
- ✓ Tested for COVID-19
- ✓ Results of COVID test

Health Belief Moddel

Perceived susceptibility of COVID-19

Perceived severity of COVID-19

Perceived benefit of COVID-19 vaccine

Perceived barrier COVID-19 Vaccine

Cues of action COVID-19 Vaccine

Self-efficacy of COVID-19 Vaccine

Figure 1: A conceptual framework of COVID-19 vaccine acceptance and associated factors among the community in Jimma Town, Southwest Ethiopia in 2022.

CHAPTER THREE: OBJECTIVES

3.1. General Objective

➢ To assess the COVID-19 vaccine acceptance and associated factors among the community of Jimma Town, Oromia region, Ethiopia, 2022

3.2. Specific Objectives

➢ To determine the magnitude of COVID-19 vaccine acceptance among the community of Jimma town in southwest Ethiopia in 2022.

➢ To identify factors associated with COVID-19 vaccination acceptance among the community in Jimma town, Southwest Ethiopia in 2022

CHAPTER FOUR: METHODS AND MATERIALS

4.1. Study Area and Period

The study was conducted in Jimma Town, Oromia Regional State, located 357 Km away from Addis Ababa in southwest Ethiopia. According to Jimma Town 2014 health office revised report, the total population of the town was 224,565 people of which 112911 estimated males and 111654 estimated females. Jimma town is divided into 17 kebeles with 32,192 households and an area of 15,568.58 square kilometers (91). In the town, there are 2 governmental hospitals (1 teaching hospital and 1 general hospital), 3 private general hospitals, 4 health centers, and more than 10 private clinics. The study was conducted from July 15– August 15/2022.

4.2. Study Design

The community-based cross-sectional study design was employed.

4.3. Populations

4.3.1. Source Populations

All Households who live in Jimma town, Oromia region, Ethiopia

4.3.2. Study Population

All randomly selected Households who live in Jimma town

4.3.3. Study Unit

All randomly selected individuals who live in Jimma town

4.4. Eligibility Criteria

4.4.1. Inclusion Criteria

The inclusion criteria for the participants were study participant must be over 18 years old, lived in Jimma town for at least the last six months, and willing to participate in the study.

4.4.2. Exclusion Criteria

This study excluded those who were already vaccinated and sick during data collection.

4.5. Sample Size Determination and Sampling procedure

4.5.1. Sample Size Determination

The sample size was determined using the single population proportion formula with the following assumptions: Z= the standard normal deviation at 95% confidence interval; =1.96,

d= margin of error that can be tolerated, 5% (0.05), and design effect 1.5.

The sample size was calculated based on the proportion of 45.5% of a similar study conducted in Wolaita Sodo town (74).

$$n = \frac{\left(Z_{\frac{\alpha}{2}}\right)^2 P(1-P)}{d^2} = \frac{(1.96)^2 0.455(1-0.455)}{(0.05)^2} = 381$$

Then, by considering a non-response rate of 10% and a design effect of 1.5, the final sample size was **629.**

4.5.2. Sampling procedure

A multistage sampling technique was used to select the study participants for this study. In the beginning, 30% of the 17 kebeles were selected, and a simple random sampling technique was used to select 6 kebeles from a total of 17 kebeles. A proportional sample allocation was implemented for each selected kebele. From each kebele, households were selected using a systematic random sampling technique with a specified sampling interval: every 27th household. The first household was selected by taking the house number from the kebele administration statistics, and then others were selected at regular intervals until the required sample size was reached. In cases where there was more than one eligible individual in the household, a lottery method was used to choose one among them; if there was no eligible individual in the household, the next house was visited. For proportional allocation of samples (figure 2).

$$n = \frac{number\ of\ household\ in\ each\ kebeles * total\ sample\ size}{total\ number\ of\ selected\ households}$$

K1. Bossakittokebele $= \frac{4218*629}{16874} = $ **157**	K4. Hermata Merkato kebele$= \frac{2359*629}{16874} = $ **88**
K2. Mentina kebele $= \frac{2935*629}{16874} = $ **109**	K5. Boore kebele $= \frac{1571*629}{16874} = $ **59**
K3. Hermata Mentina kebele$= \frac{2937*629}{16874} = $**110**	K6. Saxo kebele $= \frac{2854*629}{16874} = $ **106**
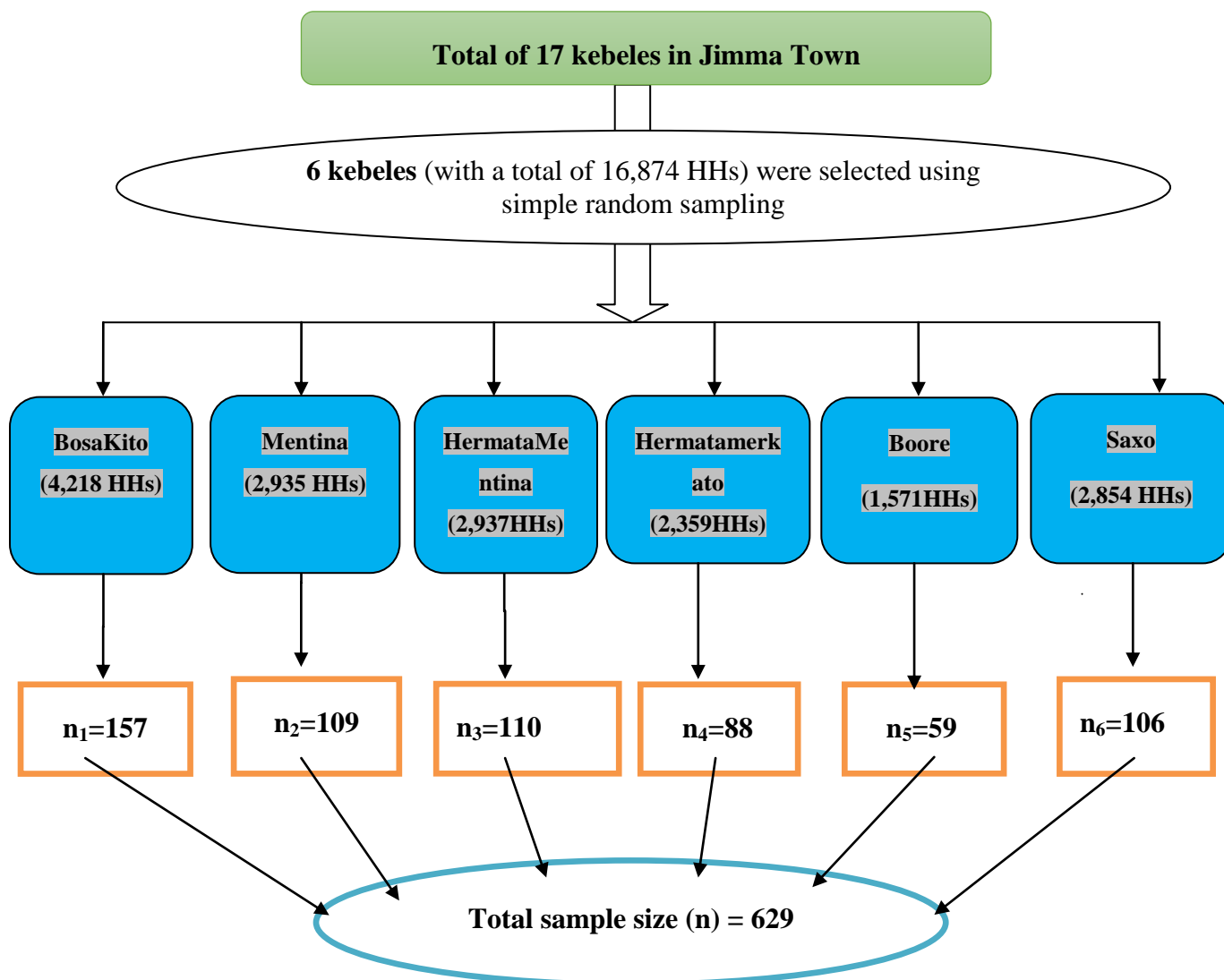
Figure 2: *Schematic representation of sampling procedure of COVID-19 vaccine acceptance and associated factors among the community in Jimma Town, Southwest Ethiopia in 2022.*

4.6. Study Variables

4.6.1. Dependent Variable: COVID-19 vaccine acceptance

4.6.2. Independent Variables

Socio-demographic factors:

- Age,
- Sex,
- Education status,
- Marital status,

- Religion,
- Occupation,
- Health insurance
- Monthly Income

Medical Condition and Lifestyle-related factors

- Preexisting Chronic disease,
- Smoking cigarette

Personal factors:

- The knowledge,
- The attitude of accepting the COVID-19 Vaccine.
- Source of information

Health Belief Model

- Perceived susceptibility of COVID-19 vaccine
- Perceived severity of COVID-19 vaccine
- Perceived benefit of COVID-19 vaccine
- Perceived barrier of COVID-19 Vaccine
- Cues of action
- Self-efficacy

Covid-19 experience related factor

o   Contact with COVID-19 patient

o   History of any family members diagnosed with Covid-19

o   Member of household diagnosed with COVID-19,

o   Relatives have been diagnosed with COVID-19 and

o   Friends have been diagnosed with COVID-19

o   Tested for COVID-19

o   Results of COVID-19 test

4.7. Data collection procedure and instruments

4.7.1. Data collection Instrument

To compile a list of resources on vaccine acceptability and to find pertinent tools and scales for vaccination, a thorough examination of the literature (60,89,90,92,93). In vaccine research, the Health Belief Model (HBM) was heavily utilized to examine vaccination acceptance and determine participant attitudes toward disease and vaccination.

The instrument consisted of six parts including Socio demographic, medical history & lifestyle factors, personal-related factors (Knowledge, Attitude, and source of information), Health Belief Model, COVID-19 experience, and COVID -19 vaccine acceptances.

The "socio demographic characteristics questionaries' consist of nine items to assess the different issues surrounding the willingness to accept the COVID-19 vaccine. The medical history and lifestyle were assessed with three items, and the source of information was assessed with nine items using yes and no. Again, the knowledge part was assessed with 18 items using the Yes/No option to assess the knowledge of study participants about the Corona virus. The attitude toward the COVID-19 vaccine was assessed with nine items using a five-point Likert scale. 1. Strongly disagrees, 2. Disagree, 3. Neutral, 4. Agree, 5. Strongly agree and the COVID-19 experience was also assessed with nine items with Yes/ No responses.

HBM was used as a theoretical framework in the current study to assess community vaccine acceptability, and it was adapted from another study (89,90). The dependent variable was "Will you take the COVID-19 vaccine when it becomes available?" with 'Yes', and 'No' response options. If the respondents' answered ''yes", he/she is considered as having the willingness to accept the COVID-19 vaccine. The tool was validated in Eastern Ethiopia with Cronbach's alpha of 0.784 (61).

The HBM consists of six important domains: perceived susceptibility to COVID-19 was assessed on 8 items; perceived severity of infection from COVID-19 was assessed on 6 items; perceived benefits of COVID-19 vaccination were assessed on 7 items; perceived barriers to COVID-19 vaccination were assessed on 12 items; cues to action were assessed on 6 items; and self-efficacy was assessed on 3 items, all using a five-point Likert scale. 1. Strongly Disagree, 2. Disagree, 3. Neutral, 4. Agree, 5. Strongly Agree

The questionnaire was prepared in the English version, and then it was translated into Afaan Oromo and Amharic by the language expert and then translated back to English to ensure consistency.

4.7.2. Data Collection procedures

Data were collected through an interviewer-administered structured questionnaire. The data was collected by professional nurses (2 data collectors and 1 supervisor) who could speak English, Amharic, and Afan Oromo through face-to-face interviews. The data was collected every day from Monday to Saturday.

4.8. Definition of terms and Operational definitions

COVID-19 Vaccine acceptance: Refers to how a person perceives his or her need for the COVID-19 vaccine (94).

Vaccine acceptance: COVID-19 vaccine acceptance was measured using "yes" and "no" questions. Respondents who answered "yes" received one point, while those who answered "no" received zero points. Accordingly, respondents who scored 1 were thought of as having the willingness to accept the COVID-19 vaccine, and respondents who scored 0 were thought of as having no willingness to accept the COVID-19 vaccine (74).

Knowledge about COVID-19 Vaccine acceptance: Refer to participants' general information about COVID-19 vaccine acceptance. Categorized based on the mean score of knowledge questions as either good (greater than or equal to the mean score) or poor (less than the mean score) knowledge of COVID-19 vaccine acceptance *(68,72)*.

Attitude toward COVID-19 vaccine acceptance: General feelings of participants towards COVID-19 vaccine acceptance. Based on the mean score of attitude questions, respondents were classified as "good" (greater than or equal to the mean score) or "poor" (less than the mean score) (68,72).

Domains of the Health Belief model

A. **The perceived susceptibility domain:** Belief about getting COVID-19. Consisting of eight questions addressing the possible risk of getting infected by COVID-19. The overall perceived susceptibility to COVID-19 infection was calculated and computed to create a single variable. The single variable was checked for mean value, transformed based on the mean score, and dichotomized into low susceptible and high susceptible.

B. **The perceived severity domain:** Belief about the seriousness of the condition, or leaving it untreated and COVID-19 consequences. Consisted of six questions that relate to the household's concerns about the seriousness of COVID-19. The overall perceived severity of COVID-19 infection was calculated and computed to create a single variable. The single variable was checked for mean value and transformed based on the mean score and dichotomized into low perceived severity and high perceived severity.

C. **The perceived benefits domain:** one's perception of the benefits of freedom from disease. Consisted of seven questions linked to the perceived positive outcomes of getting vaccinated against COVID-19 in terms of reducing their susceptibility to contracting the illness or the severity of symptoms if being infected by COVID-19. The overall perceived benefit of COVID-19 infection was calculated and computed to create a single variable. The single variable was checked for mean value and transformed based on the mean score and dichotomized in to low benefited and high benefited.

D. **The perceived barriers domain:** belief about the potential negative aspects of COVID-19. It consisted of twelve questions that pinpointed the household's concerns or negative beliefs toward COVID-19 vaccines. The overall perceived barriers to COVID-19 infection were calculated and computed to create a single variable. The single variable was checked for a mean value, transformed based on the mean score, and dichotomized into high barriers and low barriers.

E. **The cues to action domain:** A prompt or a trigger that attract healthy behavior. Consisted of six questions addressing different clues or recommendations that promote the willingness of communities to get vaccinated against COVID- 19. The overall cues of action to COVID-19 infection were calculated and computed to create a single variable. The single variable was checked for mean value and transformed based on the mean score and dichotomized into less cues of action and more cues of action.

F. **The self-efficacy domain:** one's belief that one can carry out certain health behavior. Comprised three questions that addressed communities' willingness to improve their health, e.g., adopting a healthy lifestyle. The overall self-efficacy to COVID-19 infection was calculated and computed to create a single variable. The single variable was checked for mean value and transformed based on the mean score and dichotomized into negative and positive self-efficacy.

4.9. Data Quality Assurance

To assure the quality of data, we adapted a validated tool and the questionnaire was pre-tested at agaro by taking 5%, one day of training was given to data collectors and supervisors on the objectives of the study, data collection tools, and research ethics. Supervision was conducted by supervisors and a principal investigator to monitor the overall data collection process. The data collection tool was translated into local languages (Afan Oromo and Amharic) and translated back to English to check for consistency.

The collected data were checked for completeness and consistency by the principal investigator and supervisor every day at the end of each data collection day.

4.10. Data Processing and Analysis

Following the data collection, the data were rechecked for completeness and entered into Epidata version 4.6, and then exported to SPSS version 25.0 for analysis. Appropriate coding and recoding were done at each step for the variables as necessary. Descriptive statistics like frequencies and percentages were conducted. Next, binary logistic regression analysis was used to assess the association between the dependent and independent variables. In bivariable binary logistic regression, the analysis was done to sort candidate variables with a p-value less than or equal to 0.25 for multivariable binary logistic regression**.**

Multivariate logistic regression analysis was conducted to identify factors strongly associated with COVID-19 vaccine acceptance. Finally, the association was declared with a p-value less than 0.05 with an adjusted odds ratio (AOR) at a 95% confidence interval. Hosmer and Lemeshow's test were used to determine the model's fitness which gives 0.054. Finally, the result of the analysis was presented in sentences, tables, and graphs as appropriate.

4.11. Ethical Considerations

Before data collection, ethical clearance was obtained from the institutional review board (IRB) of Jimma University, Institute of Health, and submitted to each kebele administration for permission and cooperation before data collection. A written informed consent was obtained

from each respondent after providing sufficient information on the purpose of the study. Also, the respondents' right to withdraw from the study was assured. The confidentiality of the respondents was maintained by not writing their names or identification numbers on the questionnaires. The data collectors have strictly adhered to COVID-19 prevention measures.

4.12. Dissemination Plan

The study findings will be disseminated through a scientific presentation, and submission of hard and soft copies to relevant authorities (School of Nursing, Institute of Health, Jimma University, and Jimma Zone Health Bureau). Furthermore, it will be ready for publication in local or international reputable journals.

CHAPTER FIVE: RESULTS

The result of the study was presented in eight subsections: sociodemographic characteristics, medical and vaccination history characteristics, Knowledge about COVID-19 vaccines, attitude towards COVID-19 vaccines, source of information, Constructs of a health belief model, COVID-19 experience, acceptance of COVID-19 vaccine, and factors associated with acceptance of COVID-19 vaccine. A total of 607 study participants have participated in the study, which gives a response rate of 96.5%.

Socio demographic Characteristics

The mean age of the study participants was 35.23±8.745 years, and 247(40.7%) of them were between 30-39 years age. Three hundred five (52%) of the participants were males, 403(66.4%) were married, 219(36.1%) were orthodox Christian by religion, 338 (55.7%) were Oromo by their ethnicity, 229 (37.7%) had college/university level of educational status, 251(41.4%) were civil servants, and 262(43.2%) of them had health insurance. Concerning monthly income, the mean monthly income of the study participant was 6347.24 ±4335.556 Ethiopian birrs (Table 1).

Table 1: Socio demographic characteristics of Jimma town community, Jimma town Oromia region, Ethiopia, 2022

Variables		Frequency	Percent
Age *	18-29 years	187	30.8
	30-39 years	247	40.7
	40-49 years	136	22.4
	50-59 years	29	4.8
	>60 years	8	1.3
Sex	Male	305	50.2
	Female	302	49.8
Marital status	Married	403	66.4
	Single	137	22.6
	Divorced	29	4.8
	Widowed	18	3.0
	Separated	20	3.3
Religion	Orthodox	219	36.1
	Muslim	214	35.3

	Protestant	153	25.2
	Catholic	16	2.6
	Waqefata	5	0.8
Ethnicity**	Oromo	338	55.7
	Gurage	85	14.0
	Amhara	84	13.8
	Dawuro	49	8.1
	Tigre	27	4.4
	Other**	24	4
Occupation	Civil servant	251	41.4
	Merchant	124	20.4
	Students	95	15.7
	House wife	75	12.4
	Daily labor	60	9.9
	Farmer	2	.3
Educational status	Unable to read and write	25	4.1
	Read and write only	11	1.8
	1-8 class	63	10.4
	9-12 class	151	24.9
	College	128	21.1
	University	229	37.7
Health insurance	Yes	262	43.2
	No	345	56.8
Monthly family income ***	601-1650	38	6.3
	1651-3200	101	16.6
	3201-5250	139	22.9
	5251-7800	156	25.7
	7801-10900	110	18.1
	> =10901	63	10.4

*Age category based on Ethiopian demographic characteristics

* *other: Yem, Kefa,

*** Income is categorized based on the Ethiopian salary taxation and finance system.

Medical and Life style

Concerning the medical and lifestyle, 164(27%) had chronic diseases. Of those who had chronic diseases, 91(15%) of them had diabetes mellitus. About one-sixth of 100(16.5%) of the study participants were smoking cigarettes (Table 2).

*Table 2: **Medical and Vaccination characteristics of Jimma Town Community, Oromia region,
Southwest Ethiopia, 2022***

Variables		Frequency	Percent
Chronic disease	Yes	164	27.0
	No	443	73.0
Type of chronic disease	Cardiovascular	44	7.2
	Chronic kidney disease	13	2.1
	DM	91	15.0
	Others *	16	2.7
Smoking cigarette	Yes	100	16.5
	No	507	83.5

Other* Rheumatic d/se, pulmonary TB

Personal Factors

Knowledge about COVID-19 Vaccines

Regarding the knowledge of the study participants about the Corona virus vaccination, 357 (59%) of them had poor knowledge about the Corona virus. (Figure 3).
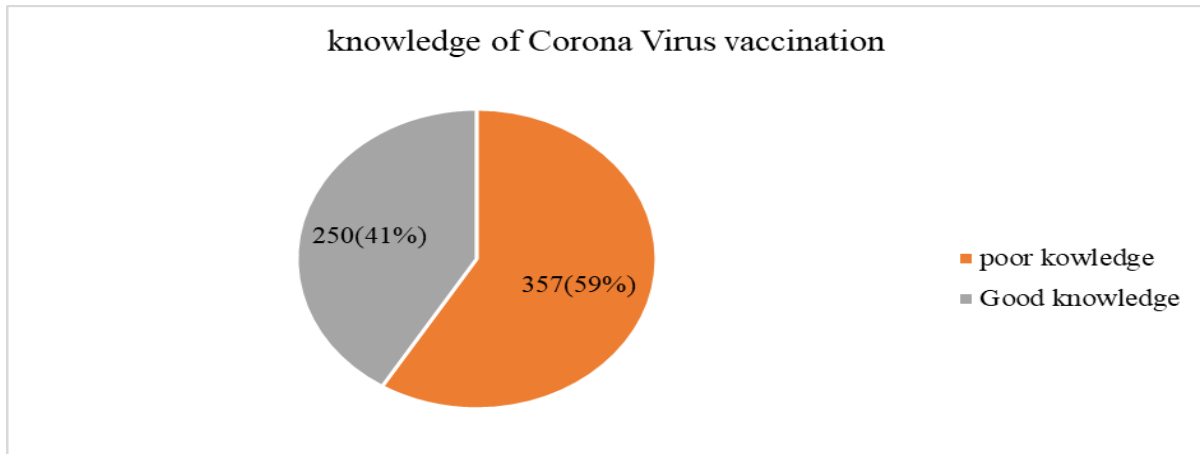
Figure 3: Knowledge about Covid-19 vaccine acceptance among Jimma Town Community, Southwest Ethiopia, 2022

Attitude towards COVID-19 Vaccines

Concerning the attitude toward coronavirus vaccination 327 (54%) of the study participants had a favorable attitude toward coronavirus vaccination (Figure 4).
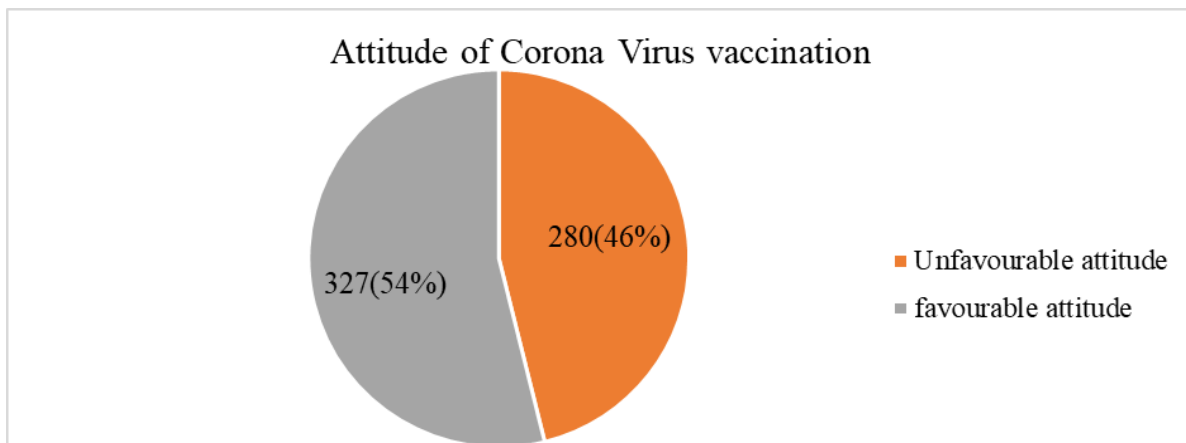
Figure 4: Attitude towards Covid-19 vaccine acceptance among Jimma Town Community, Southwest Ethiopia, 2022

Source of information

Regarding the source of information about the corona virus vaccination, 602(99.2%) getting the information from local media likes television, radio, or newsletter, 164(27%) was from International media (BBC, CCTV, CNN, VOA, DW, Aljazeera, etc). One hundred twenty-nine (21.3%) were getting from health authorities like the ministry of health, 73(12%) from International health websites, 91(15%) from scientific articles and journals, 388(63.9%) from social media, 346(57%) from the internet, 589(97%) from friends and family, and 496(81.7%) from Colleagues and friends (Table 3).

Table 3: Source of Information about Covid-19 vaccination among Jimma Town Community, Southwest Ethiopia, 2022

Variables		Frequency	Percent
Local media (television, radio, newspaper....)	Yes	602	99.2
	No	5	0.8
International media (foreign channels)	Yes	164	27.0
	No	443	73.0
Health authorities (ministry of health.)	Yes	129	21.3
	No	478	78.7
International health websites (WHO, CDC...)	Yes	73	12.0
	No	534	88.0
Scientific articles and journals	Yes	91	15.0
	No	516	85.0
Social media (Facebook, telegram)	Yes	388	63.9
	No	219	36.1
Internet	Yes	346	57.0
	No	261	43.0
Family and friends	Yes	589	97.0
	No	18	3.0
Colleagues and friends	Yes	496	81.7
	No	111	18.3

Constructs of health belief model

Concerning the health belief model constructs, 349 (57.5%) of the study participants perceived that they were highly susceptible to coronavirus, 358 (59%) of them had a high perceived severity of coronavirus, 288 (47.4%) had a high perceived barrier, more than half of the study participants had a high perceived benefit of getting a coronavirus vaccination, 310 (51%) of them had less perceived cues of action, and 316(52.1%) of them had perceived positive self-efficacy (Table 4).

Table 4: Constructs of Health Belief model of Covid-19 vaccine acceptance among Jimma Town Community, Southwest Ethiopia, 2022

Variables		Frequency	Percent	Mean
Perceived susceptibility	Low susceptible	258	42.5	
	High Susceptible	349	57.5	3.25
perceived severity	Low perceived severity	249	41.0	
	High perceived severity	358	59.0	3.6
Perceived Barriers	Low Perceived barriers	319	52.6	
	High perceived barriers	288	47.4	3.04
Perceived Benefits	Low perceived Benefits	302	49.8	
	High Perceived Benefits	305	50.2	3.5
Cues of action	Less perceived cues of action	310	51.1	
	More cues of action	297	48.9	3.22
self-efficacy	Low self-efficacy	291	47.9	
	High self-efficacy	316	52.1	3.56

COVID-19 experience

Regarding the coronavirus-related factors, 137(22.6%) had previous contact with COVID-19 positive patients, 287(47.3%) had members of the household been diagnosed with COVID-19, 328(54%) of friends or neighbors been diagnosed with corona virus, and 370(61%) of them were ever tested for corona virus. Twenty-four (4%) of them tested positive and 12(2%) of them were treated as an inpatient. About 269(44.3%) of them perceive getting the coronavirus as a moderate

risk, and 92(15.2%) of the study participants have family members who died because of the coronavirus (Table 5).

Table 5: Covid-19 experiences of Jimma Town Community, Oromia region, Southwest Ethiopia, 2022

Variables		Frequency	Percent
Have you been previously in contact with COVID-19 positive patient	Yes	137	22.6
	No	470	77.4
Has a member of your household been diagnosed with COVID-19	Yes	287	47.3
	No	320	52.7
Has anyone of your friends or neighbors been diagnosed with COVID-19	Yes	328	54.0
	No	279	46.0
Have you ever tested for COVID-19	Yes	370	61.0
	No	237	39.0
If yes, what was your result	Positive	24	4.0
	Negative	346	57.0
Treatments administered to COVID-19 patients	Outpatient Rx	9	1.5
	Inpatient/ hospitalized	12	2.0
	Inpatient ICU	3	0.5
Chance of getting COVID-19	Low risk	200	32.9
	Moderate risk	269	44.3
	High risk	110	18.1
	No risk at all	28	4.6
Family death due to COVID-19	Yes	92	15.2
	No	515	84.8

Acceptance of the COVID-19 vaccine

Three hundred and twenty eight, 54% (CI 48.8-58) of the study participants were ready to get vaccinated against the coronavirus (Figure 5).
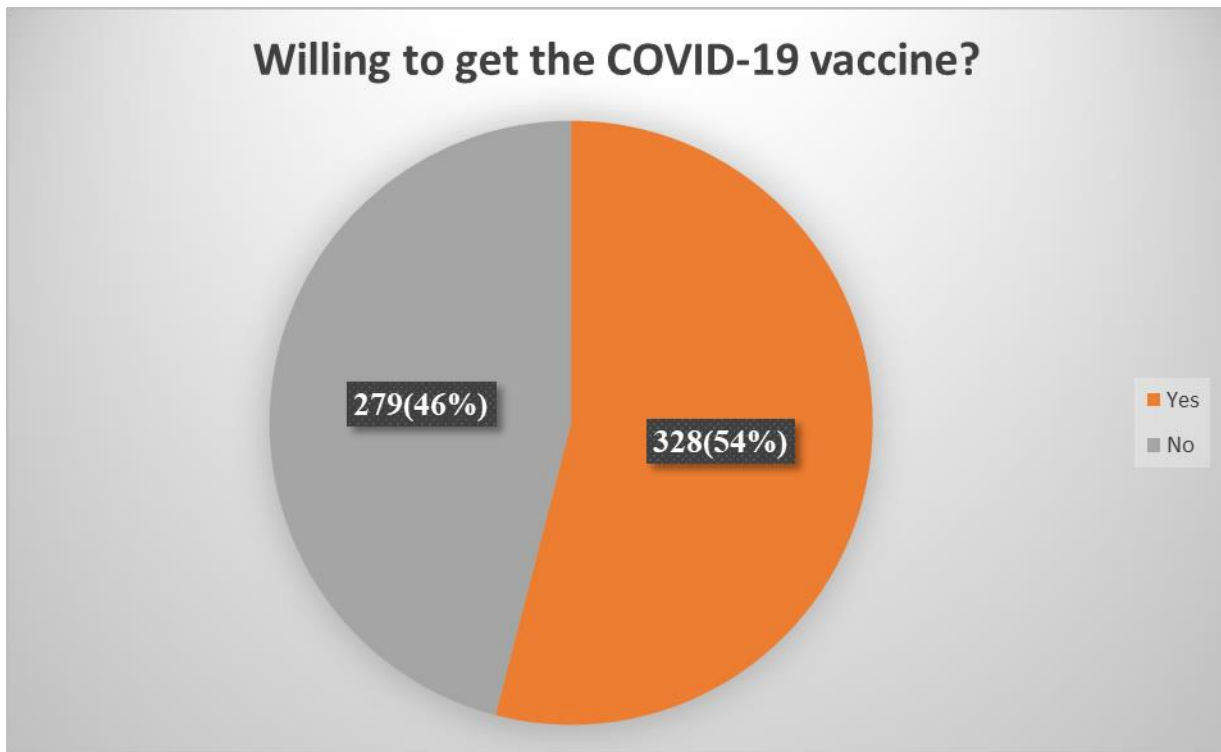
Figure 5: Acceptance of COVID-vaccine among Jimma Town Community, Southwest Ethiopia, 2022

Factors associated with willingness to take Covid-19 vaccination

From bivariate logistic regression analysis, at a p-value less than 0.25, variables such as sex, age, marital status, occupation, educational status, monthly household income, smoking cigarettes, international media (foreign channels), social networks (Facebook, telegram, etc.), the Internet, colleagues and friends, susceptibility, severity, barriers, benefits, self-efficacy, knowledge, and attitude showed a significant association. However, after adjusted in multivariate logistic analysis only sources of information from international media (foreign channels), colleagues, and friends, perceived severity, barrier, benefit, self-efficacy, knowledge, and attitude had statistically significant associations with COVID-19 vaccine acceptance at a p-value less than 0.05.

Participants attending and getting information from international media (foreign channels) were 1.6 times more likely willing to accept COVID-19 vaccination as compared with those who had not gotten information from international media (foreign channels) (AOR = 1.602; CI: 1.027, 2.500; P = 0.038),Participants getting information from colleagues and friends were 1.9 times more likely willing to accept COVID-19 vaccination as compared with those who had not gotten information from colleagues and friends (AOR = 1.923; CI: 1.176, 3.145; P = 0.009).

Those who experienced the severity of the coronavirus were 1.75 times more likely to receive a vaccination against COVID-19 compared to those who did not experience the severity of the coronavirus (AOR = 1.751; CI: 1.171, 2.616; P = 0.006). Similarly, those with low perceived barriers were 2.6 times more likely to be willing to accept a COVID-19 vaccination compared to those with high perceived barriers (AOR = 2.580; CI: 1.740, 3.825; P = 0.001). Participants with a perceived benefit of the COVID-19 vaccine were 2.5 times more likely to be willing to accept a COVID-19 vaccination compared to those who perceived no benefit (AOR = 2.501; CI: 1.699, 3.683; P = 0.001). Participants with high perceived self-efficacy were 1.5 times more likely willing to accept COVID-19 vaccine compared to those with low perceived self-efficacy (AOR = 1.476; CI: 1.021, 2.133; P= 0.038),Participants who have good knowledge were 1.5 times more likely willing to accept COVID-19 vaccine those who compared with poor knowledge (AOR =1.523; CI: 1.042, 2.227;P = 0.030).

Finally, Participants who have a favorable attitude were 2.2 times more likely willing to accept COVID-19 vaccine compared to those with unfavorable attitude (AOR = 2.222; CI: 1.510, 3.270; P= 0.001).

Table 6: *Factors associated with Covid-19 vaccine acceptance among Jimma Town Community, Southwest Ethiopia, 2022*

	Variables	Willing	Not willing	COR;95%C.I.	AOR 95% C.I.	P-value
International media (foreign channels)	No	95(57.9%)	69(42.1%)	1	1	1
	Yes	233(52.6%)	210(47.4%)	1.241(1.086,1.782)	1.602(1.027, 2.500)	0.038
Colleagues and friends	No	277(55.8%)	219(44.2%)	1	1	1
	Yes	51(45.9%)	60(54.1%)	1.488(1.184,2.249)	1.923(1.176, 3.145)	0.009
Perceived severity	Low Perceived severity	111(44.6%)	138(55.4%)	1	1	1
	High perceived severity	217(60.6%)	141(39.4%)	0.523(0.377,0.725)	1.751(1.171, 2.616)	0.006
Barrier	High perceived barriers	204(63.9%)	115(36.1%)	1	1	1
	Low Perceived barriers	124(43.1%)	164(56.9%)	2.346(1.693,3.252)	2.580(1.740, 3.825)	0.001
Benefits	Low perceived Benefits	117(38.7%)	185(61.3%)	1	1	1
	High Perceived Benefits	211(69.2%)	94(30.8%)	0.282(0.201,0.394)	2.501(1.699, 3.683)	0.001
Self-efficacy	Low perceived self-efficacy	175(60.1%)	116(39.9%)	1	1	1
	High Perceived self-efficacy	153(48.4%)	163(51.6%)	1.607(1.165,2.218)	1.476(1.021, 2.133)	0.038
Knowledge	Poor	212(59.4%)	145(40.6%)	1	1	1
	Good	116(46.4%)	134(53.6%)	1.689(1.219,2.340)	1.523(1.042, 2.227)	0.03
Attitude	Unfavorable	199(71.1%)	81(28.9%)	1	1	1
	Favorable	129(39.4%)	198(60.6%)	3.771(2.683,5.300)	2.222(1.510, 3.270)	0.001

Note: 1 Reference

CHAPTER SIX: DISCUSSION

Vaccines are an effective method of infection prevention and have helped to reduce the burden of infectious diseases for many years. The effectiveness of immunization efforts to attain high vaccination coverage, especially against emerging infectious diseases, depends on how the general community perceives illness risk, vaccine attitudes, and demand.

The findings of this study showed that over half 54% (95% CI: 48.8–58). The study participants had the willingness to accept the coronavirus vaccination. Variables such as the source of information from international media (foreign channels), colleagues, and friends, perceived severity, barrier, benefit, self-efficacy, knowledge, and attitude all had statistically significant associations with COVID-19 vaccine acceptance.

The proportion of the study participants who were willing to accept the COVID-19 vaccine was 54%. This is almost consistent with the study findings from different studies such as : the United States of America at the University of Chicago 57.6% (95), Poland 57% and Russia at 55% (96), Italy 53.7% (43), and Uganda 53.6% (97). However, it is greater than the findings from the study done in the United States of America under EUA which indicates 30.7% (85), Chile (49%) (42), France (47 %), Hungary (47%), Hong Kong, 42.2% (79), Malaysia 48.2% (98), Jordan 36.8% (99), Zambia (33.4%) (53), Congo 27.7% (100), and Southwest Ethiopia 29.2% (101). The possible reason might be the time difference since the information about the COVID-19 vaccines was disseminated rapidly through various social media. Although local, national, and international efforts to educate the public about the risks of COVID-19 and the advantages of vaccination in terms of effectiveness, safety, availability, and utility, as well as the information's availability and accessibility, which may account for better acceptability.

However, the current study findings were lower than those of studies carried out in many other nations according to a global studies from Brazil (85.4%), Mexico (76.3%), Canada (68%), Italy (70%), Germany (68.42%), Ecuador (71.9%) (40), France Paris (74%) (102), Denmark (80.0%) (43), UK (64.0%) (11), China (77.4%) (80), United Arab Emirates (60.1%) (103), Nigeria (65.2%) (40), and Addis Ababa, Ethiopia 81.1% (63). The possible explanation may be the detrimental effects of social media and the propagation of false rumors, such as conspiracy theories concerning vaccinations and certain sources that claim they might cause autism, are full of toxic substances, or understate the risk of disease. Others think they're a plot to take over society, which would explain why the current study acceptance rate is so low. Furthermore, this

difference might be due to population differences, socio-economic differences, time differences, and differences in the seriousness of the pandemic among different communities.

Variables such as the source of information from international media (foreign channels), colleagues and friends, perceived severity, barrier, benefit, self-efficacy, knowledge, and attitude all had statistically significant associations with COVID-19 vaccine acceptance.

Source of information from international media (foreign channels) were found to be positively associated with willingness to take the coronavirus vaccine, and this finding was consistent with studies from United kingdom (104), Vietnam (84), China (105), Saudi Arabia (106), Ethiopia Addis Ababa (63) but the finding has the inverse relationship with that of the study done in Indonesian (49). The diversity of nations that follow international news to find out how many people were infected, died, or sought any type of professional help, and the usage of such media with contradictory information on the COVID-19 vaccine may be a possible cause of the discrepancy. This information source may potentially have additional effects on how willing people are to receive the COVID-19 vaccination (107).

In the current study, source of information from colleagues and friends were positively associated with the willingness to take the coronavirus vaccine, and this finding was consistent with studies from Australia (108), Iraq (109), and Egypt (110). Accepting COVID-19 vaccine reported positive vaccination influences from trusted colleagues and friends as well as having access to what they perceived as reliable, evidence-based information.

Most of the HBM constructs were found to be significantly associated with COVID-19 vaccine acceptance. In particular, regarding high perceived severity, the study finding was supported by the study result from China (78,81), the United State of America (111), the Iranian Republic (83), and Vietnam (84), Ethiopia (systematic review)(81). The possible reasons might be that the COVID-19 epidemic has had a tremendous negative impact on people's lives all around the world, which creates long-term lockdown and quitting of work, which leads to a significant impact on their household's economic crisis, health impact, and social disintegration. People were more willing to take the COVID-19 vaccine if they perceived the COVID-19 disease to be severe and serious.

Based on the findings from current study result, the low perceived barrier was positively associated with COVID-19 vaccine acceptance, which is in lined with a study finding from China (80). However there is inconsistency with the study finding from the United State of

America (85), Vietnam (84), Pakistan (112) and Ethiopia (81). The possible reason might be that they might get more negative information about the COVID-19 vaccine and conspiracy theories. Some people have concerns regarding the speed with which they were developed or about their safety or side effects. Others have a long-held aversion to the medical establishment or governmental authority. Another community may feel like the vaccination isn't something they need. Some discrepancies in uptake could be altogether separate from hesitancy and more related to a lack of access than anything else.

The high perceived benefit was positively associated with willingness of accepting the COVID-19 vaccine in the current study, the finding was supported by the study finding from the United State of America (85), China (78,81), Vietnam (84), Pakistan (112) and Ethiopia (81). One advantage of vaccine willingness was the acceptability of vaccines developed based on comprehensive clinical studies, the producers' past expertise with mass vaccine production, and their lack of doubt over the nation where the vaccine was made.

According to the current study, high perceived self-efficacy was positively associated with Covid-19 vaccine acceptance, which was congruent with study findings from the USA (85), and Ethiopia (81). Infection prevention is viewed as the primary goal for vaccinations, which suggests that the promotion and education for the COVID-19 vaccine should emphasize high perceived self-efficacy as a key element.

Acceptance rates of a COVID-19 vaccine were significantly associated with study participants' knowledge of COVID-19 infection; the study finding was consistent with the study finding. from Greece (113), China (80), Vietnam (84), Saudi Arabia (114), Lebanese survey (69), and Ethiopia (68,73). A possible explanation might be Knowledge has a big impact on people's awareness since it clears up any misunderstandings that cause confusion.

Finally, COVID 19 vaccine acceptance was positively associated with a favorable attitude of study participants' to coronavirus vaccine acceptance, the finding was consistent with studies from the United State of America (85), China (105), Congo (100), and Ethiopia (81) and inconsistency with the study finding from Addis Ababa (63), Ethiopia (68,73). The potential reason for the discrepancy may be that they have unfavorable attitudes toward vaccination and unfavorable beliefs about the efficacy of the COVID-19 vaccine. On the other hand, people who believe in vaccination experience less anxiety about contracting COVID-19 and are more willing to protect others through vaccination.

Strength of the study

The strengths of current study include its being community based study, use of large sample size and examining a wide range of possible correlates with the health belief model.

Limitation of the study

A key limitation of this study is that the study's cross-sectional design in nature, so no causality between the variables can be assumed. The social desirability bias was another limitation, where individuals answered questions in a way that would be regarded favorably by others.

CHAPTER SEVEN: CONCLUSION AND RECOMMENDATIONS

7.1. Conclusion

In conclusion, more than half are willing to be vaccinated against the COVID-19 vaccine in Jimma town. The acceptance rate was associated with a source of information from international media (foreign channels), colleagues, and friends, perceived severity, barrier, benefit, self-efficacy, knowledge, and attitude.

7.2. Recommendation

These findings suggest that targeted and multipronged efforts are needed to build vaccine literacy and confidence to increase the acceptance of a COVID-19 vaccine, especially for vulnerable populations. Based on this, we recommended the following bodies.

To Jimma Town Health Office

The local health authorities must understand public attitudes and views on vaccination and promotes the benefits and importance of COVID-19 vaccines to promote willingness, reduce coronavirus transmission and achieve vaccination goals need to do it. The authority should provide accurate information to reduce barriers by using culturally appropriate messaging and specifically targeting media influencers.

To Future researchers

Further study might be conducted by qualitative to see more other variables impeding the acceptance of the COVID-19 vaccine.

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Annexes- I

Informed Consent

PURPOSE OF STUDY

This is a study aimed to assess the COVID-19 Vaccine Acceptance and Associated Factors among Jimma Town Community, Southwest Ethiopia, 2022.

RISKS & BENEFITS

There are no foreseeable risks and no direct benefit to you for your participation in this study. However, we hope that the information obtained from this study may be benefited all communities.

CONFIDENTIALITY

Your responses to this study will be anonymous. Every effort will be made by the researcher to preserve your confidentiality by assigning code names/numbers for participants that will be used in all research documents.

VOLUNTARY PARTICIPATION

Your participation in this study is voluntary. If you decide to take part in this study, you will besked to sign a consent form. After you sign the consent form, you are still free to withdraw at any time and without giving a reason. Withdrawing from this study will not affect the care given to you. If you withdraw from the study before data collection is completed, your data will be excluded from the results.

CONSENT

I have read, and understood the provided information and have had the opportunity to ask questions. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving a reason and without cost. I voluntarily agree to take part in this study.

CONTACT INFORMATION

If you have questions at any time about this study, please contact the principal investigator **Firenesh Tefera** at (+251) 911-073641.

 Participant's signature_____ Date _____

Investigator's signature _____ Date _____

Annexes II

Questionnaire

Part I: Sociodemographic characteristics

S/N	Questions	Responses
101	Age	_____ in years
102	Sex	1. Male 2. Female
103	Marital status	1. Single 2. Married 3. Divorced 4. Widowed 5. Separated
104	Religion	1. Orthodox 2. Muslim 3. Catholic 4. Protestant 5. Wakefata 6. Other, specify_____
105	Ethnicity	1. Oromo 2. Amhara 3. Gurage 4. Dawuro 5. Kafa 6. Tigre 7. Other specify_____
106	Occupation	1. Housewife 2. Merchant 3. Civil servant 4. Labor work 5. Farmer 6. Other…

107	Education status	1. Unable to read and write
		2. Read and write only
		3. 1 – 8 grades
		4. 9th – 12th grade
		5. College
		6. University and above
108	Do you have health insurance?	1. Yes
		2. No
109	Monthly income	_____ ETB

Part II: Medical and vaccination History

S.no	Questions	Response
1.	Do you have a chronic disease?	1. Yes 2. No
2.	If 'Yes', what type of chronic disease do you have? (Multiple responses)	1. Cardiovascular diseases 2. Kidney diseases 3. Cancer 4. Diabetics 5. Pulmonary disease 6. Rheumatologic condition 7. Immunocompromised state due to therapy or disease 8. Others(specify)_____
3.	Smoking cigarates	1. Yes 2. No

Part III: Personal Factors

A. Knowledge about COVID-19 Vaccines

S.No	Questions	Response
1.	Do you know about the COVID-19 vaccine development?	1. Yes 2.No
2.	Do you know about the effectiveness of the COVID- 19 vaccine?	1. Yes 2.No
3.	Does COVID-19 vaccination increase allergic reactions?	1. Yes 2.No
4.	Do COVID-19 vaccines decrease the risk of symptomatic infection with the COVID-19 virus?	1. Yes 2.No
5.	Do COVID-19 vaccines decrease the risk of transmission of the COVID-19 virus?	1. Yes 2.No
6.	Do all available vaccines produce antibodies against COVID-19?	1. Yes 2.No

7.	Do COVID-19 vaccines provide you with immediate protection directly after the first dose?	1. Yes 2.No
8.	Does all COVID-19 vaccine preparation techniques are new and were never used before?	1. Yes 2.No
9.	Does the COVID-19 vaccine an effective treatment for active COVID-19 infection?	1. Yes 2.No
10.	Do most of the confirmed side effects of the COVID-19 vaccines are mild, resolving in 2–3 days?	1. Yes 2.No
11.	Will people who were previously infected with COVID-19 need to be vaccinated for COVID-19 at a certain time?	1. Yes 2.No
12.	It is preferable that the two doses of the vaccine given to an individual be from the same brand	1. Yes 2.No
13.	Does Vaccinated people will not need to take preventive measures?	1. Yes 2.No
14.	Can anyone take the COVID-19 vaccine?	1. Yes 2.No
15.	Does the Influenza vaccine protect against COVID-19?	1. Yes 2.No
16.	Do COVID-19 vaccines contain microchips influencing our body and brain?	1. Yes 2.No
17.	People with chronic diseases and elderly are more likely to have the disease and its complications, so they should get the vaccine	1. Yes 2.No
18.	Young people are healthy and therefore do not need to follow preventive measures and to get the vaccine in order to protect themselves against Covid-19	1. Yes 2.No

B. Attitude towards COVID-19 Vaccines

1. Strongly Disagree, 2. Disagree, 3. Neutral, 4. Agree, 5. Strongly Agree

S.no	Questions	1	2	3	4	5
1.	I believe COVID-19 can be prevented by vaccination					
2.	I believe the current COVID-19 vaccine is effective.					
3.	COVID-19 vaccination should be mandatory for the community					
4.	The current COVID-19 vaccine is safe					

5.	I encourage my family/friends/relatives to get vaccinated.					
6.	I think that the currently available vaccine will stop the COVID-19 infection?					
7.	I think Vaccines are only meant for children?					
8.	Should people with chronic and severe diseases get priority for COVID-19 vaccination?					

C: source of information

Do you have any information about COVID-19 vaccines?

s.no	Variables	Yes	No
1.	Local media (television, radio, newspaper....)		
2.	International media (foreign channels, …)		
3.	Health authorities (ministry of health.)		
4.	International health websites (WHO, CDC...)		
5.	Scientific articles and journals		
6.	Social media (Facebook, telegram…)		
7.	Internet		
8.	Family and friends		
9.	Colleagues and friends		

Part IV: COVID-19 Vaccination Acceptance

Sn	Variables	Response
1.	Are you willing to get the COVID-19 vaccine?	1.Yes 0. No

Part V: Constructs of Health Belief Model

A. Perceived Susceptibility

1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4= Agree, 5 = Strongly Agree

S. No	Variables	1	2	3	4	5
1.	I believe that everybody is risk for Covid19					
2.	I am susceptible of getting infected due to my occupational exposure					
3.	My health status makes me more susceptible to contract COVID-19					
4.	I think that older people are more vulnerable to Covid-19					
5.	I believe that I can protect myself against COVID-19 better than other people					
6.	I don't care about Covid-19 and do my daily activities like before					
7.	I think I will be infected if there is infected person in the home or neighbor					
8.	Healthy people can get Covid-19					

B. Perceived severity

1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4= Agree, 5 = Strongly Agree

S. No	Variables	1	2	3	4	5
1.	I think COVID-19 is more serious than seasonal influenza or other diseases					
2.	I think that COVID-19 is highly infectious					
3.	I will be very sick if I get COVID-19					
4.	If I get COVID-19, I might require hospitalization					
5.	If I get corona, it will disrupt my family life					
6.	If I get COVID-19, I might die					

C. Perceived Barriers:

1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4= Agree, 5 = Strongly Agree

S.No	To what extent the following factor affected your ability to accept COVID-19 vaccination?	1	2	3	4	5
1.	I am concerned about the novelty of vaccine (not used before)					
2.	I am concerned about the side effects of COVID-19 vaccine					

3.	I am concerned about the efficacy of COVID-19 vaccine					
4.	I am concerned about the safety of COVID-19 vaccine					
5.	I am concerned about the accessibility of COVID-19 vaccines (geographical distribution of sites)					
6.	I am concerned about the availability of COVID-19 vaccine in limited quantities for limited categories of the population					
7.	I am concerned whether if the COVID-19 vaccine is acceptable					
8.	I am concerned about the reliability of the manufacturer and the source of supply					
9.	I am concerned about vaccine mode of administration (needles use...)					
10.	I am concerned about vaccine frequency (number of doses required....)					
11.	I am concerned about immunity duration (how much time I will be protected)					
12.	I am concerned about Ethiopian health system, and the strategy of distribution of the vaccines					

D. **Perceived benefits**

1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4= Agree, 5 = Strongly Agree

S.No	Variables	1	2	3	4	5
1.	Vaccination is a good idea because it makes me feel less worried about catching COVID-19					
2.	Vaccination decreases my chance of getting COVID-19 or its complications					
3.	Vaccines are considered between the most tested and safe medical products					
4.	When I get vaccinated, I protect my patients, family and friends from COVID-19 infection					
5.	When I get vaccinated, the whole community benefits by preventing the spread of COVID-19					
6.	COVID-19 vaccination is an effective way to prevent and control COVID-19					
7.	High vaccination coverage globally is required to stop COVID-19 pandemic					

E. Cues to action

1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4= Agree, 5 = Strongly Agree

S.No	Variables	1	2	3	4	5
1.	I will only take the COVID-19 vaccine if I was given adequate and reliable information about it					
2.	The chances of me getting vaccinated against COVID-19 will increase if official guidelines from the Ministry of Health are published					
3.	The chances of me getting vaccinated against COVID-19 will increase if friends and family express support for the benefit of the vaccine					
4.	The chances of me getting vaccinated against COVID-19 will increase if opinion leaders on social media express support for the benefit of the vaccine					
5.	I will take the COVID-19 vaccine if the vaccine is recommended by my work					
6.	I will take the COVID-19 vaccine if the vaccine is taken by many in the public					

F. Self –efficacy

1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4= Agree, 5 = Strongly Agree

S.No	Variables	1	2	3	4	5
1.	I frequently do things on my own to improve my health					
2.	I have the recommended yearly physical examinations in addition to visits related to illness					
3.	If I take all the necessary precautions (disinfection of hands, etc.) I do not need to be vaccinated against corona virus.					

Part VI: COVID-19 experience

S.no	Questions	Response
1.	Have you been previously in contact with COVID-19 positive patient	1. Yes 2.No
2.	Has a member of your household been diagnosed with COVID-19?	1. Yes 2.No

3.	Has a member of your household been diagnosed with COVID-19?	1. Yes 2.No
4.	Has any one of your friends or neighbors been diagnosed with COVID-?	1. Yes 2.No
5.	Have you ever tested for COVID-19?	1. Yes 2.No
6.	If yes, what was your result?	1. Positive 2. Negative
7.	Treatments administered to COVID-19 patients	1. Outpatient treatment 2. Inpatient treatment in hospital 3. Inpatient treatment in ICU
8.	What is your chance of getting COVID-19?	1. Low 2. Moderate 3. High 4. No risk at all
9.	Family death due to COVID-19	1. Yes 2.No

Thank you very much!!

የስምምነት ቅጽ

ይህ በ2022 በደቡብ ምዕራብ ኢትዮጵያ በጅማ ከተማ ማህበረሰብ መካከል ያለውን የኮቪ.ድ-19 ክትባት ተቀባይነት እና ተያያዥ ጉዳዮችን ለመገምገም ያለመ ጥናት ነው።

የጥናቱን ዓላማዎች ለማሳካት በዚህ ጥናት ውስጥ መሳተፍ ብዙ አስተዋፅዖ ይኖረዋል እንዲሁም ተሳትፎዎ በፍቃደኝነትዎ ሙሉ በሙሉ ስለሆነ በማንኛውም ጊዜ የጥናቱን ተሳትፎ ማቆም ይችላሉ ። ያቀረቡት መረጃ ለምርምር ብቻ የሚውል እና እንደ ሚስጥራዊ ተደርጎ እንደሚ.ወሰድ እርግጠኛ ይሁኑ ።

የቀረበውን መረጃ አንብቤ ተረድቻለሁ እንዲሁም ጥያቄዎችን የማቅረብ እድል አግኝቻለሁ ። የእኔ ተሳትፎ በፈቃደኝነት እንደሆነ እና ያለ ምክንያት እና ያለ ወጮ በማንኛውም ጊዜ ለመልቀቅ ነፃ ነኝ ። በዚህ ጥናት ውስጥ ለመሳተፍ በፈቃደኝነት እስማማለሁ ።

ስለዚህ ጥናት በማንኛውም ጊዜ ጥያቄዎች ካሉዎት እባክዎ ዋና ተመራማሪ ፍሬነሽ ተፈራን በ (+251) 911-073641 ያነጋግሩ ።

የተሳታፊ ፊርማ _____ ቀን _____

የተመራማሪ ፊርማ _____ ቀን _____

የአማርኛ ስሪት መጠይቅ

ክፍል አንድ ፦ ማህበራዊ-ስነ-ህዝብ መጠይቅ

መመሪያ-እባክዎን በቀኝ በኩል ከተሰጡት አማራጮ ዉስት ከመረጡት ፊት ለፊት ያለውን ቁጥር ይክቢቡ ።

ተ፦ቁ	መጠይቆች	
1.	ዕድሜ	--------------
2.	ጾታ	ወንድ
		ሴት
3.	የጋብቻ ሁኔታ	ያገባ
		ያላገባ
		የተፋታ/ች
		መበለት
4.	የሃይማኖት ምንድነው	ሙስሊም
		ኦርቶዶክስ
		ፕሮቴስታንቶች
		ካቶሊኮች
		ሌላ----------------
		ሌሎች ይገለፁ------------------
5.	ብሔር ምንድነው	ኦሮሞ
		ጉራጌ
		ዳውሮ
		ከፋ
		ትግሬ
		ሌሎች ይገለፁ------------------
6.	የጋብቻ ሁኔታ	ያገባ
		ያላገባም
		የተፋታ/ች
		መበለት
7.	የሥራ ሁኔታ	ገበሬ
		የቤት እመቤት
		ነጋዴ
		የመንግስት ሰራተኛ
		ተማሪ
		ዕለታዊ ሠራተኛ
		ሥራ አጥነት
		ሌሎች ይግለጹ
8.	የትምህርት ሁኔታ	ያልተማረ

		ማንበብ እና መጻፍ ብቻ
		1-4
		5-8
		9-12
		ኮሌጅ
		ዩኒቨርሲቲ እና ከዚያ በላይ
9.	የኑሮ ሁኔታ	ለብቻ መኖር
		ከአጋሩ ጋር ብቻ
		ከአጋር እና ከቤተሰብ ጋር
		ከቤተሰብ እና አጋር ከሌለው ጋር
10.	የጤና መድን አለህ?	አዎን አይደለም
11.	ወርሃዊ ገቢ	-----------------

ክፍል ሁለት : የሕክምና እና የክትባት ታሪክ

ተ.ቁ	ጥያቄዎች	ምላሽ
1.	ሥር የሰደደ በሽታ አለብዎት?	1. አዎ 2. አይ
2.	'አዎ' ከሆነ ምን አይነት ሥር የሰደደ በሽታ አለብዎ? (በርካታ ምላሾች)	1. የካርዲዮቫስኩላር በሽታዎች 2. የኩላሊት በሽታዎች 3. ካንሰር 4. የስኳር ህመምተኞች 5. የሳንባ በሽታ 6. የሩማቶሎጂ ሁኔታ 7. በሕክምና ወይም በበሽታ ምክንያት የበሽታ መከላከያ ሁኔታ 8. ሌሎች (ይጥቀሱ) _____
3.	ሲጋራ ማጨስ	1. አዎ 2. አይ

ክፍል ሶስት ፡ የግል ምክንያቶች

ሀ. ስለ ኮቪድ-19 ክትባቶች እውቀት

ተ.ቁ	ጥያቄዎች	ምላሽ
1.	ስለ ኮቪድ-19 ክትባት እድገት ያውቃሉ?	1. አዎ 2. አይ
2.	ስለ ኮቪድ-19 ክትባት ውጤታማነት ያውቃሉ?	1. አዎ 2. አይ
3.	የኮቪድ-19 ክትባት የአለርጂ ምላሾችን ይጨምራል?	1. አዎ 2. አይ
4.	የኮቪድ-19 ክትባቶች በኮቪድ-19 ቫይረስ ምልክታዊ ኢንፌክሽን የመያዝ እድልን ይቀንሳሉ?	1. አዎ 2. አይ
5.	የኮቪድ-19 ክትባቶች የኮቪድ-19 ቫይረስን የመተላለፍ እድልን ይቀንሳሉ?	1. አዎ 2. አይ
6.	ሁሉም የሚገኙ ክትባቶች በኮቪድ-19 ላይ ፀረ እንግዳ አካላት ያመርታሉ?	1. አዎ 2. አይ
7.	የ የኮቪድ-19 ክትባቶች ከመጀመሪያው ልክ መጠን በኋላ ወዲያውኑ ከለላ ይሰጡዎታል?	1. አዎ 2. አይ
8.	ሁሉም የኮቪድ-19 ክትባት ዝግጅት ቴክኒኮች አዲስ ናቸው እና ከዚህ በፊት ጥቅም ላይ ያልዋሉ ናቸው?	1. አዎ 2. አይ
9.	የኮቪድ-19 ክትባት ለኮቪድ-19 ኢንፌክሽን ውጤታማ ህክምና ነው?	1. አዎ 2. አይ
10.	አብዛኛዎቹ የተረጋገጡት የ የኮቪድ-19 የጎንዮሽ ጉዳቶች በ2-3 ቀናት ውስጥ የሚፈቱ ቀላል ናቸው?	1. አዎ 2. አይ
11.	ከዚህ ቀደም በኮቪድ-19 የተያዙ ሰዎች ለተወሰነ ጊዜ ለኮቪድ-19 ክትባት ያስፈልጋቸዋል?	1. አዎ 2. አይ
12.	ለአንድ ግለሰብ የሚሰጠው ሁለቱ የክትባት	1. አዎ

	መጠኖች ከተመሳሳይ ብራንድ ቢሆኑ ይመረጣል?	2. አይ
13.	የተከተቡ ሰዎች የመከላከያ እርምጃዎችን መውሰድ አያስፈልጋቸውም?	1. አዎ 2. አይ
14.	ማንም ሰው የኮቪድ-19 ክትባት መውሰድ ይችላል?	1. አዎ 2. አይ
15.	የኢንፍሉዌንዛ ክትባት ከኮቪድ-19 ይከላከላል?	1. አዎ 2. አይ
16.	የኮቪድ-19 ክትባቶች በሰውነታችን እና በአንንጋላችን ላይ ተጽእኖ የሚያሳድሩ ማይክሮ ቺፖችን ይይዛሉ?	1. አዎ 2. አይ
17.	ሥር የሰደደ በሽታ ያለባቸው እና አረጋውያን ለበሽታው እና ለበሽታው የተጋለጡ ናቸው, ስለዚህ ክትባቱን መውሰድ አለባቸው?	1. አዎ 2. አይ
18.	ወጣቶች ጤነኛ ናቸው ስለዚህም መከላከያዎችን መከተል እና ክትባቱን መውሰድ አያስፈልጋቸውም ራሳቸውን ከኮቪድ-19 ለመከላከል?	1. አዎ 2. አይ

ለ. ለኮቪድ-19 ክትባቶች ያለው አመለካከት

1. በጠንካራ ሁኔታ እስማማለሁ፣ 2. እስማማለሁ፣ 3. ገለልተኛ፣ 4. አልስማማም፣ 5. በጠንካራ መልኩ አልስማማም

ተ. ቁ	ጥያቄዎች	1	2	3	4	5
1.	ኮቪድ-19 በክትባት መከላከል እንደሚቻል አምናለሁ።					
2.	አሁን ያለው የኮቪድ-19 ክትባት ውጤታማ ነው ብዬ አምናለሁ።					
3.	የኮቪድ-19 ክትባት ለህብረተሰቡ የግዴታ መሆን አለበት።					
4.	አሁን ያለው የኮቪድ-19 ክትባት ደህንነቱ የተጠበቀ ነው።					
5.	ቤተሰቦቼ/ጎደኞቼ/ዘመዶቼ እንዲከተቡ አበረታታለሁ።					
6.	አሁን ያለው ክትባት የኮቪድ-19 ኢንፌክሽንን የሚያቆመው					

	ይመስለኛል?					
7.	እኔ እንደማስበው ክትባቶች ለልጆች ብቻ የታሰቡ ናቸው?					
8.	ሥር የሰደደ እና ከባድ በሽታ ያለባቸው ሰዎች ለኮቪድ-19 ክትባት ቅድሚያ ሊሰጣቸው ይገባል?					

ሐ፡የመረጃ አስተማማኝነት

ስለ የኮቪድ -19 ክትባቶች መረጃ ከየት ታገኛለህ?

ተ.ቁ	ተለዋዋጮ᎐ች	አዎ	አይ
1.	የሀገር ውስጥ ሚዲያ (ቴሌቪዥሮን ፤ ሬዲዮ ፤ ጋዜጣ ....)		
2.	ዓለም አቀፍ ሚዲያ (የውጭ ጣቢያዎች፤...		
3.	የጤና ባለሥልጣናት (የጤና ጥበቃ ሚኒስቴር)		
4.	ዓለም አቀፍ የጤና ድረ-ገጾች (WHO፤ CDC...)		
5.	ሳይንሳዊ ጽሑፎች እና መጽሐፎች		
6.	ማህበራዊ ሚዲያ (ፌስቡክ ፤ ቴሌግራም...)		
7.	ኢንተርኔት		
8.	ቤተሰብ እና ጓደኞች		
9.	የስራ ባልደረቦች እና ሌሎች የጤና እንክብካቤ ሰራተኞች		

ክፍል አራት: የኮቪድ-19 ክትባት መቀበል

ተ.ቁ	ተለዋዋጮ᎐ች	ምላሽ
1.	የኮቪድ-19 ክትባትን ለማግኘት ፈቃደኛ ነዎት?	1. አዎ 0. አይ

ክፍል አምስት፤ የሚታሰብ ስ* ሳ*ት

ሀ. የተ*ጋ*ላጮነት ስሜት

1. በጣም አልስማማም ፣ 2. አልስማማም ፣ 3. ገለልተኛ ፣ 4. እስማማለሁ ፣ 5. ጠንካራ እስማማለሁ

ተ.ቁ	ተለዋዋ*ሮ*ች	1	2	3	4	5
1.	ሁሉም ሰው ለኮቪ.ድ19 ተ*ጋ*ላጭ ነው ብዬ አምናለሁ።					
2.	በሙ.ያዬ መ*ጋ*ለጥ ምክንያት ለበሽታ ተ*ጋ*ልጫ*ለ*ሁ					
3.	የእኔ የጤና ሁኔታ ለኮቪ.ድ-19 የበለጠ ተ*ጋ*ላጭ ያደር*ገ*ኛል።					
4.	እኔ እንደማስበው በዕድሜ የገፉ ሰዎች ለኮቪ.ድ-19 የበለጠ ተ*ጋ*ላጭ ናቸው።					
5.	ራሴን ከኮቪ.ድ-19 ከሌሎች ሰዎች በተሻለ መከላከል እንደምችል አምናለሁ።					
6.	የኮቪ.ድ-19 ጉዳይ ግድ የለኝም እና የእለት ተእለት ተግባሮቼን እንደበፊቱ አደር*ጋ*ለሁ					
7.	በቤት ውስጥ ወይም በጎረቤት ውስጥ በ*ቫ*ይረሱ የተ*ያ*ዘ ሰው ካለ እበ*ሻ*ላለሁ ብዬ አስባለሁ					
8.	ጤናማ ሰዎች በኮቪ.ድ-19 ሊ*ያ*ዙ ይችላሉ።					

ለ. የተገነዘቡ ከባድነት

1. በጣም አልስማማም ፣ 2. አልስማማም ፣ 3. ገለልተኛ ፣ 4. እስማማለሁ ፣ 5. ጠንካራ እስማማለሁ

ተ.ቁ	ተለዋዋ*ሮ*ች	1	2	3	4	5
1.	እንደማስበው የኮቪ.ድ-19 ከወቅታዊ ኢ.ንፍሉ*ዌ*ንዛ ወይም ሌሎች በሽ*ታ*ዎች የበለጠ አሳሳቢ ነው።					
2.	እኔ እንደማስበው የኮቪ.ድ-19 በጣም ተላላፊ ነው።					
3.	ኮቪ.ድ-19 ካገኘሁ በጣም l*ታ*STK¨<።					
4.	ኮቪ.ድ-19 ከሆንኩ፣ ሆስፒታል መተኛት ሊ*ያ*ስፈልገኝ					
5.	ኮሮና ከተ*ያ*ዝኩ የቤተሰቤን ሕይወት ይረብሸዋል።					

| 6. | ኮቪድ-19 ከተያዝኩ ልሞት እችላለሁ | | | | | |

ሐ. የተገነዘቡ እንቅፋቶች፦

1. በጣም አልስማማም ፤ 2. አልስማማም ፤ 3. ገለልተኛ ፤ 4. እስማማለሁ ፤ 5. ጠንካራ እስማማለሁ

ተ.ቁ	የሚከተለው ሁኔታ የኮቪድ-19 ክትባትን የመቀበል ችሎታዎን ምን ያህል ነካው?	1	2	3	4	5
1.	የክትባት አዲስነት ያሳሰበኛል (ከዚህ በፊት ጥቅም ላይ ያልዋለ)					
2.	የኮቪድ-19 ክትባት የጎንዮሽ ጉዳቶች ያሳስበኛል።					
3.	የኮቪድ-19 ክትባት ውጤታማነት ያሳስበኛል።					
4.	የኮቪድ-19 ክትባት ደህንነት ያሳስበኛል።					
5.	የኮቪድ-19 ክትባቶች ተደራሽነት አሳሰቦኛል (ጂኦግራፊያዊ ስርጭት)					
6.	የኮቪድ-19 ክትባት በተወሰነ መጠን ለተወሰኑ የህዝብ ምድቦች መገኘቱ ያሳስበኛል።					
7.	የኮቪድ-19 ክትባቱ ተቀባይነት ያለው መሆን አለመኖሩ ያሳስበኛል።					
8.	የአምራቹ አስተማማኝነት እና የአቅርቦት ምንጭ ያሳስበኛል					
9.	የክትባት መቀበያ ዘዴ ያሳስበኛል (የመርፌዎች አጠቃቀም...)					
10.	የክትባት ድግግሞሽ ያሳስበኛል (የሚፈለጉት የመድኃኒቶች ብዛት...)					
11.	የበሽታ መከላከያ ጊዜ ያሳስበኛል (ለምን ያህል ጊዜ ጥበቃ እንደሚደረግልኝ)					
12.	የኢትዮጵያ የጤና ስርዓት እና የክትባቱ ስርጭት ስትራቴጂ ያሳስበኛል።					

መ. የተገነዘቡ ጥቅሞች

1. በጣም አልስማማም ፤ 2. አልስማማም ፤ 3. ገለልተኛ ፤ 4. እስማማለሁ ፤ 5. ጠንካራ እስማማለሁ

ተ.ቁ	ተለዋዋጮች	1	2	3	4	5
1.	ክትባቱ ጥሩ ሀሳብ ነው ምክንያቱም ኮቪድ-19ን ስለመያዝ ስጋት እንዳይሰማኝ ስለሚያደርግ ነው።					

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2.	ክትባቱ በኮቪድ-19 የመያዝ እድሌን ወይም ውስብስቦቼን ይቀንሳል				
3.	ክትባቶች በጣም በተረጋገጡ እና ደህንነታቸው በተጠበቀ የሕክምና ምርቶች መካከል ይታሰባሉ።				
4.	ክትባቱን ስወስድ ታካሚያቼን፣ ቤተሰቤን እና ጓደኞቼን ከኮቪድ-19 ኢንፌክሽን እጠብቃለሁ።				
5.	ክትባቱን ስወስድ መላው ማህበረሰብ የኮቪድ-19 ስርጭትን በመከላከል ይጠቀማል				
6.	የኮቪድ-19 ክትባት ኮቪድ-19ን ለመከላከል እና ለመቆጣጠር ውጤታማ መንገድ ነው።				
7.	የኮቪድ-19 ወረርሽኝን ለማስቆም በዓለም አቀፍ ደረጃ ከፍተኛ የክትባት ሽፋን ያስፈልጋል				

ሰ. ለተግባር ምልክቶች

1. በጣም አልስማማም ፤ 2. አልስማማም ፤ 3. ገለልተኛ ፤ 4. እስማማለሁ ፤ 5. ጠንካራ እስማማለሁ

ተ.ቁ	ተለዋዋጮች	1	2	3	4	5
1.	የኮቪድ-19 ክትባቱን የምወስደው ስለሱ በቂ እና አስተማማኝ መረጃ ከተሰጠኝ ብቻ ነው።					
2.	የጤና ጥበቃ ሚኒስቴር ኦፊሴላዊ መመሪያዎች ታትመው ከወጡ በኮቪድ-19 ላይ የመከተብ እድሌ ይጨምራል					
3.	ጓደኞች እና ቤተሰብ ለክትባቱ ጥቅም ድጋፍ ከሰጡ በየኮቪድ-19 ላይ የመከተብ እድሎች ይጨምራሉ።					
4.	በማህበራዊ ሚዲያ ላይ ያሉ አስተያየቶች መሪዎች ለክትባቱ ጥቅም ድጋፍ ከሰጡ በ የኮቪድ-19 ላይ የመከተብ እድላችን ይጨምራል					
5.	ክትባቱ በስራዬ የሚመከር ከሆነ የኮቪድ-19 ክትባትን እወስዳለሁ።					
6.	ክትባቱ በብዙ ሕዝብ ዘንድ ከተወሰደ የኮቪድ-19 ክትባትን እወስዳለሁ።					

ፈ . ራስን መቻል

1. በጣም አልስማማም ፤ 2. አልስማማም ፤ 3. ገለልተኛ ፤ 4. እስማማለሁ ፤ 5. ጠንካራ እስማማለሁ

ተ.ቁ	ተለዋዋጮች	1	2	3	4	5
1.	ጤንነቴን ለማሻሻል ብዙ ጊዜ ነገሮችን በራሴ አደርጋለሁ					
2.	ከበሽታ ጋር ከተያያዙ ጉብኝቶች በተጨማሪ የሚመከሩ አመታዊ የአካል ምርመራዎች አለኝ።					
3.	ሁሉንም አስፈላጊ ጥንቃቄዎች (የእጅን መበከል እና የመሳሰሉትን) ከወሰድኩ ከኮሮና ቫይረስ መከተብ አያስፈልገኝም።					

ክፍል ስድስት: የኮቪድ-19 ተሞክሮ

ተ.ቁ	ጥያቄዎች	ምላሽ
1.	ከዚህ ቀደም ከኮቪድ-19 አዎንታዊ ታካሚ ጋር ተገናኝተው ያውቃሉ	1. አዎ 2. አይ
2.	እንድ የቤተሰብዎ አባል በኮቪድ-19 ተመርምሮ ያውቃል?	1. አዎ 2. አይ
3.	እንድ የቤተሰብዎ አባል በኮቪድ-19 ተመርምሮ ያውቃል?	1. አዎ 2. አይ
4.	ከንደኞችህ ወይም ከጎረቤቶችህ አንዱ በኮቪድ- የተመረመረ አለ?	1. አዎ 2. አይ
5.	ለኮቪድ-19 ምርመራ አድርገው ያውቃሉ?	1. አዎ 2. አይ
6.	አዎ ከሆነ፣ ውጤቱ ምን ነበር?	1. አዎንታዊ 2. አሉታዊ
7.	ለኮቪድ-19 ታማሚያዎች የሚሰጡ ሕክምናዎች	1. ህመምተኛ ሕክምና 2. በሆስፒታል ውስጥ ህመምተኛ ሕክምና 3. በከፍተኛ የእንክብካቤ ክፍል ውስጥ ህመምተኛ ሕክምና
8.	በኮቪድ-19 የመያዝ እድልዎ ምን ያህል ነው?	1. ዝቅተኛ 2. መካከለኛ 3. ከፍተኛ 4. በጭራሽ ምንም አደጋ የለውም
9.		1. አዎ

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በኮቪድ-19 ምክንያት የቤተሰብ ሞት	2. አይ

በጣም አመሰግናለሁ!!

Afan Oromo Version Questionnaire

Qorannon kun kan gaggeefaamu akka magalaa Jimmaatii wa'ee Talaalli korona waalin walqabate adda baasuf kan gargarudhaa. Qabxii fi argaamnii Qoranno kanaa gargaarsaa kenamuufi saddarkaa fudhinsaa talaalli dhibbee korona adda basuf gargaaraa. Qoranno kana galmaan gahuuf, issin iraattii hirmaachun kessaan faayidaa guddaa qaba, kana darbees, qoranno kana irraatii hirmachuun gutumman gututii fedhaan waan ta'eef, yero fetaanitii qorano kana addan kutuu ni dandeesu. Oddeffanoon issiniraa funanaamu kun qorano kana qofaaf akkaa olu bektani, ichitidhaan akaa egaamu ta'ee fudhatamaa.

Oddefanoo dhiyyatee dubbissee xiyyeffaadheen jiraa, gaafiis gafaachuuf charaa argadhee gaafaadheeraa. Hirmaanan koo gutumman gututii fedhaan waan ta'eef, qoranno kana irraatii hirmachuuf waali galeen jiraa.

qoranno kana irraatii gaafi kaamiyyuu yoo qabataan Lak. Bil. (+251) 911-073641

Maalatoo Kesaan _____ guyyaa _____

Maalatoo Qorataa _____ guyyaa _____

A. **Gaafilee Hawasumaa**

s.no	Gaaffilee	
1.	Umuriin keessan meeqa?	---------------
2.	Saala	Dhiira
		Dhalaa
3.	Halaa gaa'ila kessan	Hin fune/hin herumne
		Kan fudhe/herume
		Adaa kan bahe/bate
		Irraa kan du'e/ dute
		Addaa adda kan jiratan
4.	Amantaan Keessan	Muslima
		Ortodoksii
		Pirotestantii
		Katolikii
		Kan bira ibsa ---------------
5.	Sabni kessaan	Oromoo
		Amaara
		Kafaa
		Guraagee
		Dawuroo
		Tigiree
		Kan bira ibsaa-----------------
6	Hojii	Hadhaa warraa
		Daldala
		Hojeta motuma

		Hoji humna
		Qonan bula
		Kan biro ibsa …
7	Sadarkaa barumsaa	Hin baranne
		Barreessuufi dubbisuu qofa
		1-4
		5-8
		9-12
		Kolleejjii
		Yuniversiitii fi isaa ol
8	Iddoo jirenyaa	Magaalaa
		Badiyyaa
9	Inshuransi fayyaa hawsumaa qabdu?	Eyye
		Lakki
10	Inshuraansii fayyaa qabduu? gonkumaa miti	Lakki
		Eeyyee
11	Galii ji'aa qarshiidhaan	-----------------

Kutaa II: Seenaa yaalaa fi talaallii

Lakki	Gaaffilee	Deebii
1.	Dhukkuba yeroo dheeraa qabaa?	1. Yes 2. Lakki
2.	Yoo 'Eeyyee' ta'e, gosa dhukkuba yeroo dheeraa akkamii qabda? (Deebiin dachaa) .	1.. Dhukkuboota onnee fi ujummoolee dhiigaa 2. Dhukkuba tiruu 3.Kaansarii

		4. Dhukkubsattoota sukkaaraa
		5. Dhukkuba sombaa
		6. Haala ruumatolojii
		7. Haala immunocompromised state sababa yaala ykn dhukkubaatiin
		8. Kanneen biroo(ibsu)_____ .
3.	Sigaaraa xuuxuu	1. Eeyyee
		2. Lakki

Kutaa III: Qabxiilee Dhuunfaa

A. Beekumsa waa'ee Talaallii COVID-19

Lakki	Gaaffilee	Deebii
1.	Waa'ee qophii talaallii COVID-19 beektuu?	1. Eeyyee 2. Lakki
2.	Waa'ee bu'a qabeessummaa talaallii COVID- 19 beektuu?	1. Eeyyee 2. Lakki
3.	Talaalliin COVID-19 alarjii ni dabalaa?	1. Eeyyee 2. Lakki
4.	Talaalliin COVID-19 carraa mallattoo dhukkuba vaayirasii COVID-19 qabamuu ni hir'isaa?	1. Eeyyee 2. Lakki
5.	Talaalliin COVID-19 carraa daddarbiinsa vaayirasii COVID-19 ni hir'isaa?	1. Eeyyee 2. Lakki
6.	Talaalliin argamu hundi farra qaama COVID-19 ni oomishaa?	1. Eeyyee 2. Lakki
7.	Talaalliin COVID-19 doosiin jalqabaa erga fudhattee booda kallattiin eegumsa hatattamaa siif kennaa?	1. Eeyyee 2. Lakki
8.	Tooftaan qophii talaallii COVID-19 hundi haaraa fi kanaan dura itti fayyadamanii hin beekne?	1. Eeyyee 2. Lakki
9.	Talaalliin COVID-19 dhukkuba COVID-19 sochiirra jiruuf yaala bu'a qabeessaa?	1. Eeyyee 2. Lakki
10.	Miidhaan cinaa talaallii COVID-19 mirkanaa'e	1. Eeyyee

	irra caalaan isaa salphaadha, guyyaa 2–3 keessatti ni furama?	2. Lakki
11.	Namoonni kanaan dura COVID-19n qabaman yeroo murtaa'etti talaallii COVID-19 fudhachuu ni barbaachisa?	1. Eeyyee 2. Lakki
12.	Doosiin talaalliin nama dhuunfaaf kennamu lamaan maqaa tokko irraa yoo ta'e filatamaadha	1. Eeyyee 2. Lakki
13.	Namoonni Talaallii fudhatan tarkaanfii ittisaa fudhachuun isaan hin barbaachisuu?	1. Eeyyee 2. Lakki
14.	Namni talaallii COVID-19 fudhachuu danda'aa?	1. Eeyyee 2. Lakki
15.	Talaalliin Infuleenzaa COVID-19 irraa ni eegaa?	1. Eeyyee 2. Lakki
16.	Talaalliin COVID-19 maaykiroochippii qaamaa fi sammuu keenya irratti dhiibbaa geessisu of keessaa qabaa?	1. Eeyyee 2. Lakki
17.	Namoonni dhukkuba yeroo dheeraa qabaniifi maanguddoonni carraan dhibee kanaa fi rakkoolee isaa baay'ee waan qabaniif talaallii fudhachuu qabu	1. Eeyyee 2. Lakki
18.	Dargaggoonni fayyaa waan ta'aniif Covid-19 irraa of eeguuf tarkaanfii ittisaa hordofuu fi talaallii fudhachuun isaan hin barbaachisu	1. Eeyyee 2. Lakki

B. Ilaalcha Talaallii COVID-19

1. Cimsee walii gala, .2. Waliigaluu, 3. Qaama bilisaa, 4. Walii hin galu, .5. Cimsee walii hin galu

Lakki	Gaaffilee	1	2	3	4	5
1.	COVID-19 talaalliin ittisuun ni danda'ama jedheen amana					
2.	Talaalliin COVID-19 amma jiru bu'a qabeessa jedheen amana.					
3.	Talaalliin COVID-19 hawaasaaf dirqama ta'uu qaba					

4.	Talaalliin COVID-19 amma jiru nageenya qaba					
5.	Maatii/hiriyoonni/firoottan koo akka talaallii fudhatan nan jajjabeessa.					
6.	Talaalliin amma jiru kun dhukkuba COVID-19 ni dhaabsisa jedheen yaada?					
7.	Talaalliin daa'imman qofaaf kan yaadame natti fakkaata?					
8.	Namoonni dhukkuba yeroo dheeraa fi cimaa qaban talaallii COVID-19 dursa argachuu qabuu?					

C: Amanamummaa odeeffannoo

Waa'ee talaallii COVID-19 odeeffannoo qabduu?

Lakki	Jijjiiramoota	Eeyyee	Lakki
1	Miidiyaalee biyya keessaa (televijiinii, raadiyoo, gaazexaa....)		
2	Miidiyaalee idil-addunyaa (chaanaalii biyya alaa, ...)		
3	Abbaa taayitaa fayyaa (ministeera fayyaa.)		
4	Marsariitiiwwan fayyaa idil-addunyaa (WHO, CDC...)		
5	Barreeffamoota saayinsii fi barruulee		
6	Miidiyaa hawaasaa (Facebook, telegram...)		
7	Intarneetii		
8	Maatii fi hiriyoota		
9	Miiltoowwan hojii fi hojjettoota eegumsa fayyaa biro		

Kutaa IV: Balaa itti dhaga'amu

A.Saaxila Fakkaachuu

1 = Cimsee walii hin galu, 2 = Walii hin galu, 3 = Giddu galeessa hin qabu, 4= Walii hin galu, 5 = Cimsee walii hin galu

Lakki	Jijjiiramoota	1	2	3	4	5
1.	Namni hundi Covid 19f balaa qaba jedheen amana					
2.	Hojiif saaxilamuu kootiin vaayirasichaan qabamuuf saaxilamaadha					
3.	Haalli fayyaa koo COVID-19n akkan qabamu na taasisa					
4.	Namoonni umuriin isaanii guddaa ta'e Covid-19f caalaatti saaxilamu jedheen yaada					
5.	Namoota biroo caalaa COVID-19 irraa of eeguu akkan danda'u nan amana					
6.	Covid-19 dhimma hin qabu duraanii hojii guyyaa hojjedh					
7.	Nama dhukkuba kanaan qabame mana keessa ykn ollaan yoo jiraate natti fakkaata					
8.	Namoonni fayyaa qaban Covid-19 qabamuu danda'u					

B.Hammeenya jedhamee yaadamu

1 = Cimsee walii hin galu, 2 = Walii hin galu, 3 = Giddu galeessa hin qabu, 4= Walii hin galu, 5 = Cimsee walii hin galu

Lakki	Jijjiiramoota	1	2	3	4	5
1.	COVID-19 infuleenzaa waqtii ykn dhukkuboota biroo caalaa hamaadha jedheen yaada					
2.	COVID-19 daddarba guddaa qaba jedheen yaada					
3.	Yoon COVID-19 qabadhe baay'een dhukkubsa					
4.	Yoon COVID-19 qabadhe hospitaala ciisuu na barbaachisuu mala					
5.	Yoon koronaan qabame jireenya maatii koo ni jeeqa					
6.	Yoon COVID-19 qabadhe du'uu danda'a					

C.Gufuuwwan Itti Fakkaataman

1 = Cimsee walii hin galu, 2 = Walii hin galu, 3 = Giddu galeessa hin qabu, 4= Walii hin galu, 5 = Cimsee walii hin galu

Lakki	Wanti armaan gadii kun dandeettii talaallii COVID-19 fudhachuu keessan irratti dhiibbaa hangam geessiseera?	1	2	3	4	5
1.	aaromsa talaallii (kanaan dura hin fayyadamne) na yaaddessa .					
2.	Miidhaa talaallii COVID-19 na yaaddessa					
3.	Bu'a qabeessummaa talaallii COVID-19 na yaaddessa					
4.	Nageenyi talaallii COVID-19 na yaaddessa					
5.	Dhaqqabummaa talaallii COVID-19 (raabsa teessuma lafaa iddoowwan) na yaaddessa .					
6.	Talaalliin COVID-19 baay'ina daangeffame ummata gosoota murtaa'eef argamuu isaatu na yaaddessa					
7.	Talaalliin COVID-19 fudhatama qabaa ta'uu isaa na yaaddessa					
8.	Amanamummaa oomishtootaa fi madda dhiyeessii na yaaddessa					
9.	Akkaataan talaallii itti kennamu (fayyadama cirrachaa...) na yaaddessa .					
10.	Irra deddeebiin talaallii (baay'ina doosiiwwan barbaachisu....) na yaaddessa .					
11.	Turtiin ittisa qaamaa (yeroo hangamii akkan eegamu) na yaaddessa .					
12.	Sirna fayyaa Itoophiyaa, fi tooftaa raabsa talaallii kun na yaaddessa					

D. Faayidaa hubatame

1 = Cimsee walii hin galu, 2 = Walii hin galu, 3 = Giddu galeessa hin qabu, 4= Walii hin galu, 5 = Cimsee walii hin galu

Lakki	Jijjiiramoota	1	2	3	4	5
1.	Talaalliin COVID-19 qabamuuf yaaddoon akkan hir'atu waan na godhuuf yaada gaarii dha					
2.	Talaalliin carraan koo COVID-19 ykn rakkoolee inni mudatu hir'isa					
3.	Talaalliin oomishaalee yaalaa baay'ee qoratamanii fi nageenya qaban gidduutti ilaalama					
4.	Yeroon talaallii fudhadhu dhukkubsattoota, maatii fi hiriyoota koo dhukkuba COVID-19 irraa nan eega					
5.	Yeroon talaallii fudhadhu hawaasni guutuun tamsa'ina COVID-19 ittisuun fayyadama					

6.	Talaalliin COVID-19 COVID-19 ittisuu fi to'achuuf karaa bu'a qabeessa ta'edha					
7.	Weerara COVID-19 dhaabuuf akka addunyaatti uwwisni talaallii olaanaan barbaachisaadha					

E. Cues to action

1 = Cimsee walii hin galu, 2 = Walii hin galu, 3 = Giddu galeessa hin qabu, 4= Walii hin galu, 5 = Cimsee walii hin galu

Lakki	Jijjiiramoota	1	2	3	4	5
1.	Talaallii COVID-19 kan fudhadhu yoo waa'ee isaa odeeffannoo gahaa fi amanamaa ta'e naaf kenname qofa					
2.	Qajeelfamni ofiisaa Ministeera Fayyaa irraa yoo maxxanfame carraan talaallii koo COVID-19 ni dabala					
3.	Hiriyoonni fi maatiin faayidaa talaallii kanaaf deeggarsa yoo ibsan carraan talaallii koo COVID-19 ni dabala					
4.	Carraan talaallii koo COVID-19 ni dabala, hoggantoonni yaada miidiyaa hawaasaa irratti faayidaa talaallii kanaaf deeggarsa yoo ibsan					
5.	Talaalliin COVID-19 yoo hojii kootiin gorfame ta'e nan fudhadha					
6.	Talaallii COVID-19 kan fudhadhu yoo talaalliin ummata hedduun fudhatame					

F. Of danda'uu

1 = Cimsee walii hin galu, 2 = Walii hin galu, 3 = Giddu galeessa hin qabu, 4= Walii hin galu, 5 = Cimsee walii hin galu

Lakki	Jijjiiramoota	1	2	3	4	5
1.	Yeroo baayyee fayyaa koo fooyyessuuf ofuma kootiin waan tokkon hojjedha					
2.	Daawwannaa dhukkuba waliin walqabatee jiru malees qorannoo qaamaa waggaa waggaan gorfamu qaba					
3.	Of eeggannoo barbaachisu hunda (disinfection of harkaa fi kkf) yoon godhe, talaallii vaayirasii koroonaa na hin barbaachisu.					

Kutaa V: Muuxannoo COVID-19

Lakki	Gaaffilee	Deebii
1.	Kanaan dura dhukkubsataa COVID-19 pozaatiivii waliin tuttuqaa qabdaa	1. Eeyyee 2. Lakki
2.	Miseensi maatii keessanii tokko COVID-19n qabamee jiraa?	1. Eeyyee 2. Lakki
3.	Miseensi maatii keessanii tokko COVID-19n qabamee jiraa?	1. Eeyyee 2. Lakki
4.	Hiriyoonni ykn ollaa keessan keessaa namni COVID- qabame jiraa?	1. Eeyyee 2. Lakki
5.	Qorannoo COVID-19 gootanii beektuu?	1. Eeyyee 2. Lakki
6.	Yoo eeyyee ta'e bu'aan keessan maal ture?	1. Pozaatiivii 2. Negaatiivii
7.	Wal'aansa dhukkubsattoota COVID-19f kennamu	1.Yaala mana yaalaa alaa 2.Wal'aansa dhukkubsataa mana yaalaa keessatti 3.Yaala dhukkubsataa mana yaalaa ICU keessatti
8.	Carraan COVID-19 qabamuu keessan maali?	1..Gadi aanaa 2.Giddu galeessa 3.Ol'aanaa 4.Tasuma balaa hin qabu
9.	Duuti maatii sababa COVID-19	1. Eeyyee 2. Lakki

Kutaa VI: Fudhatama Talaallii COVID-19

Lakki	Gaaffilee	Deebii
1.	Talaallii COVID-19 fudhachuuf fedhii qabduu?	1. Eeyyee 2. Lakki

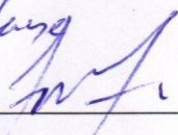*Baay'ee*   *galatoomi!!*

DECLARATION

I, the undersigned, declare that this thesis is my original work, has not been presented for a degree in this or any other university and that all sources of materials used for the thesis have been fully acknowledged.
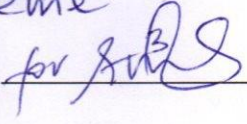
Name of investigator: Firenesh Tefere   Signature _____

Name of the institution._____

Date of submission. _11/01/2023_

This thesis has been submitted for examination with my approval as University advisor

Name of the first advisor: _Temamen Tesfaye_

Date. _11/01/2023_   Signature _____

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Date. _11/01/2023_   Signature _for_ _____

APPROVAL OF EXAMINERS

Name of internal examiner: _Dr. Fikadu Balcha_

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Date: _11/01/2023_   Signature _for_ _____