**KNOWLEDGE, ATTITUDE AND PRACTICE TOWARDS COVID-19 PREVENTION AMONG PRISONERS AND ASSOCIATED FACTORS IN HALABA TOWN PRISON IN SOUTHERN ETHIOPIA, 2021.**

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ABSTRACT

BACKGROUND: COVID-19 is an emerging respiratory infection that is caused by a novel corona-virus and was first noticed in December 2019 in Wuhan, China. Ethiopia is now showing a high commitment to prevent and slow down the COVID-19 pandemic. Applying case detection, contact testing and quarantine, large scale screening in high-risk groups; like prisoners are the actions being taken to control the spread of the disease.

OBJECTIVE: To assess knowledge, attitude and practice towards COVID-19 prevention and associated factors among prisoners in Halaba kulito town, southern Ethiopia, 2021.

METHODS: Institution-based cross-sectional study was conducted in Halaba kulito prison, southern Ethiopia at May to June 2021. Using eligibility criteria; 214 prisoners were included using census survey method in the study. A structured interviewer administered questionnaire was used. After the completion of data collection, all the questionnaires were checked, entered and cleaned using Epi-data version 3.1 and analyzed by SPSS version 25. Bi-variate and multivariable binary logistic regression were used to identify the predictors of knowledge, attitude and practice towards COVID-19 prevention.

RESULTS: Good knowledge, positive attitude and good practice towards COVID-19 prevention were reported as 91%, 71.4% and 54.8% respectively. Age above 25 years old [AOR=4.416, 95%CI (1.598-12.203), (P<0.004)] and source of information from media [AOR=4.673, 95%CI (1.607-13.587), (P<0.005)] were significantly associated with knowledge towards COVID-19. Formal educational level [AOR=2.21, 95%CI (1.01-4.83), (P<0.048)] and good knowledge [AOR=5.41, 95%CI (1.90-15.38), (p<0.002)] were significantly associated with attitude towards COVID-19. Good knowledge towards COVID-19 prevention [AOR=3.998, 95%CI (1.235-12.940), (P<0.021)] and positive attitude of COVID-19 [AOR=3.064, 95%CI (1.607-5.843), (P<0.001)] were significantly associated with practice towards COVID-19 prevention.

CONCLUSION: Levels of practice towards COVID-19 prevention were low relatively to the knowledge and attitude in this study. Health department of the Zone and NGOs, which are engaged in COVID-19 prevention health program in the area, should give special attention for availing necessary protective materials, room condition for physical distancing and health education to increase their level of practice towards COVID-19 prevention.

KEY WORDS: COVID-19, knowledge, attitude, practice, Halaba kulito, prisoners

ACKNOWLEDGMENTS

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ACRONYMS AND ABBREVIATIONS

AOR   Adjusted Odd Ratio

CDC   Communicable Disease Control

COVID-19   Coronavirus Disease 2019

ETB   Ethiopian Birr

F-HCWs   Frontline Health Workers

ICU   Intensive Care Unit

IPC   Infection Prevention and Control

KAP   Knowledge, Attitude and Practice

NGO   Non-Governmental Organization

PPE   Personal Protective Equipment

SARS-Cov-2   Sever Acute Respiratory Syndrome-Coronavirus

SD   Standard Deviation

SNNPR   Southern Nation Nationalities and People's Region

SPSS   Statistical Package for Social Sciences

TV   Television

VIF   Variance Inflation Factor

WHO   World Health Organization

CHAPTER ONE: INTRODUCTION

1.1. Background of study

Coronavirus disease 2019 (COVID-19) is an emerging respiratory infection that is caused by a novel coronavirus and was first noticed in December 2019 in Wuhan, China. The disease is highly infectious, and its main clinical presentation include fever, dry cough, fatigue, shortness of breath, sore throat, myalgia, and dyspnea(1-3).

It was stated as a global pandemic by WHO on 12th March 2020, in the world total confirmed cases were more than 111million cases including 2.47 million deaths attributed to COVID-19 until February 23, 2021, in Ethiopia total cases confirmed were around 151,016 and total death of COVID-19 were 2259(4, 5).

Coronavirus 2019 is a new infection that is a huge family of viruses that are common in people and many different species of animals, including camels, cattle, cats, and bats. Rarely, animal COVID-19 can infect people and then spread between people, and now with this new virus. Although COVID-19 and influenza infections may present with similar symptoms, the virus responsible for COVID-19 is different with respect to community spread and severity(6).

The virus is communicable respiratory disease caused by a new strain of coronavirus that causes illness in human and spread by small droplets discharged from cases during coughing, sneezing, and talking. It is also transmittable by contaminating the nose and mouth with contaminated hands contaminated surfaces containing the virus. The virus has an incubation period that may range from 2 to 14 days with the main clinical manifestations of fever, cough, and shortness of breath. The virus has no curing antiviral treatment and applying the measures to reduce the transmission remains the mainstay of prevention (3, 7, 8).

Coronavirus 2019 require all of the society to limit the spread of disease cushion the potentially devastating impact it may have on vulnerable people and economies(9). The best way to prevent and slow down transmission is to be well informed about the COVID-19 virus, the disease it causes and how it spreads. The COVID-19 virus spreads primarily through droplets of saliva or discharge from the nose when an infected person coughs or sneezes, so it's important that practice respiratory etiquette for example, by coughing into a flexed elbow. There are WHO recommended measure to reduce transmission from an infected individual to risk population

group; which are wear of face mask, washing hands with soap and water at least for 20 second duration, keeping physical distance at minimum of one meter, avoiding hand shaking and avoiding overcrowded place(10).

Assessing Knowledge, attitude, and practices are important in controlling the spread of the disease. Knowing the cause of the disease, signs/symptoms, and the possible methods of prevention can facilitate the proactive application of preventive measures(11).

1.2. Statement of the problem

Every day hundreds of thousands confirmed cases, plenty of serious cases admit into ICU and several thousand deaths are reported due to COVID-19 globally(12). Of these elders and patients with comorbidities are at high risk of hospitalization and deaths by COVID-19(13).

Until August 28, 2021; 216,229,362 confirmed cases, 112,867 serious or critical cases and 4,499,311 deaths were reported worldwide(14). Until August 11, 2021 about 7,111,780 confirmed cases and 179,801 deaths reported in Africa and in the same reporting period with world; in Ethiopia 303,171 confirmed cases and 4,618 deaths due to COVID-19 were reported(14, 15).

Groups at higher risk of catching the COVID-19 are essential workers like health workers and bus drivers need to interact with others outside their homes, which puts them at higher risk of infection. Other groups at higher risk of catching the COVID-19 are prisoners, people with disabilities and homeless people and etc. because these group cannot strictly obey the "stay at home" rules that public officials have suggesting due to the nature of their daily life(16). In addition, prisons and incarceration centers often lack enough information technology; clinical information-sharing between organizations and the different authorities accountable for the care of prisoners is often underprivileged and it also lack sufficient hand washing areas, quarantine rooms, and PPE(17-19).

KAP of COVID-19 prevention among prisoners is needed to slow down the transmission rate of the COVID-19 and inform effective healthcare planning and resource mobilization. Applying personal hygiene and public health interferences especially in priority high-risk groups like prisoners is required to reduce the spread of COVID-19(20).

The level of knowledge, attitude and practice of COVID-19 prevention among high-risk group at different corner of the world were; in Saud Arabia 81.64%, 94.1% and 86.8%, in Nepal 76%, 54.7% and 78.9% and in China 99.5%, 91.2% and 98% respectively(21-23).

In some African countries the level of knowledge, attitude and practice of COVID-19 prevention were; in Nigeria 80%, 84% and 71% in southeast city in Nigeria also 82%,49.4% and 49.3% and in Uganda 69%, 21% and 74% respectively(24-26).

The level of knowledge and practice towards COVID-19 prevention among high-risk groups in Ethiopia were; in Addis Ababa 59.5% and 48.7% and Northwest Ethiopia were 37.4% and 25.9% respectively and in different time in Addis Ababa level of knowledge and attitude of COVID-19. Factors associated with knowledge about COVID-19 prevention which were identified by some studies were; gender(male), age greater than 18 years old, occupation (being health worker), marital status(un-married), residence (being urban), and income of greater than 3000ETB and sources of information's, like TV, radio and newspaper(21, 25, 27-29). Being female was significantly associated with attitude towards COVID-19 prevention practices(28).

And also, level of education (being diploma), income, marital status of respondents (un-married), good knowledge towards COVID-19 prevention and positive attitude towards COVID-19 had significantly associated with preventive practice of COVID-19(21, 25, 27, 30-32).

Therefore, improving the prisoner's knowledge and practice of COVID-19 symptoms and prevention methods will have a significant contribution to reduce the spread of the outbreak. Ethiopia is now showing a high commitment to prevent and slow down the COVID-19 pandemic applying case detection, contact testing, quarantine and mandatory quarantine, large scale screening in high-risk groups; like prisoners are the actions being taken to control the spread of the disease(27).

To my knowledge there are no study assessing knowledge, attitude and practice towards COVID-19 prevention among prisoners especially at study area. Therefore, this study is aimed to assess Knowledge, Attitude, Practice towards COVID-19 prevention and associated factors among prisoners in Halaba town, southern Ethiopia; 2021.

1.3. Significance of the study

Understanding the position of knowledge, attitude and practice on COVID-19 prevention among prisoners helps in planning to modify or plan health education that can address preventive messages against the problem. This knowledge is used in strengthening preventive strategies against COVID-19. The data from this study is used as a base line for Halaba zone health department so that they can strengthen or revise their plan of health education in regarding the prevention of COVID-19 particularly among prisoners. Prisoners who are at risk of COVID-19 infection will be benefited indirectly because based on the study findings recommendations will be made to the Halaba zone Health department and local nongovernmental organizations (NGOs) whose responsibilities are meeting the health needs of those prisoners. The results of this study will benefit Ministry of Health of Ethiopian a way that they can understand whether preventive messages against COVID-19 reached in the community to achieve the established goals. The findings of this study will also be a baseline for other researchers interested to work on the issue.

CHAPTER TWO: LITERATURE REVIEW

2.1. Overview of Corona Virus (COVID-19)

Cross-sectional study conducted in China on knowledge, attitude and practice of COVID-19 prevention showed that 81.5%, 75% 90% respectively(33). Prevalence of knowledge, attitude and practice of COVID-19 prevention conducted in Iran showed that 48.8%, 60.8% and 71.3% respectively(34).

In Africa; Cross-sectional studies conducted on knowledge of COVID-19 prevention in Nigeria was 67.4%(35) and in Uganda knowledge, attitude and practice of COVID-19 prevention on health care workers was 82.4%, 3.4% and 54%(25).

Cross-sectional study conducted on high-risk group population of Ethiopia showed that knowledge on transmission mode, knowledge on preventive practice and practice towards COVID-19 prevention were 52.4%, 59.5% and 48.7% respectively(27). Another cross-sectional study held in Northwest Gondor, Ethiopia good knowledge and positive attitude towards COVID-19 were 73.8% and 65.7% respectively(36). Study conducted in southwest Ethiopia among high-risk group population revealed that good knowledge, practice and positive attitude towards COVID-19 prevention were 53%, 54% and 57.2% respectively(31).

2.2. Knowledge about COVID-19 Prevention among Prisoners

2.2.1. Knowledge on transmission of COVID-19

Study conducted in southwest Ethiopia showed that participants knew about COVID-19 transmitted through touching/contacting contaminated surface, respiratory droplet and close contact were 71.4% and 76.1% respectively. In this study participants knowledge about COVID-19 prevention were; using non-pharmacological methods 244(60.7%), eating garlic and onion 156(38.8%), wearing face mask 299(74.7%)(31). Another study conducted in Addis Zemen hospital Northwest Ethiopia on knowledge of COVID-19 spread showed that 70.1% participants were knew about spread of COVID-19 through hand shaking with infected individuals, 53.7% respondents knew about transmission through touching object or surface with virus on it and 83.4% respiratory droplet of infected individual during cough and sneezing(29). In this study participants knowledge on transmission of COVID-19 with no fever responded 4%(25).

2.2.2. Knowledge on prevention of COVID-19

CDC recommendation to prevent spread of COVID-19 by using face mask which cover nose and mouth; which is fitted well, social distancing at least 6 feet away from the others, avoid contact with the people who are sick, wash hands often with soap and water for at least 20 seconds especially after coughing, sneezing, or blowing your nose, Practice good cough or sneeze etiquette, each time and use hand sanitizer with at least 60% alcohol if soap and water are not available Avoid touching your eyes, nose, or mouth without cleaning your hands(37-40). And also WHO recommendation for all staff and people in prisons and other places of detention should have comprehensive awareness of COVID-19 prevention strategies, including adherence to hand hygiene measures, respiratory etiquette (covering coughs and sneezes), physical distancing (maintaining a distance of at least 1 meter from others), being alert to signs and symptoms of COVID-19(41).

Different study conducted in Nigeria among community health workers and correctional officers revealed that Regular practice of COVID-19 prevention; PPE such as wearing face masks and hand hygiene was found to be 50%, 12.8% , 30.2%, and 56.4%, respectively(35) and Knowledge about the preventive practices of COVID-19 were very high, which was 99.3% properly answered that regular hand washing with soap and water is a way of preventing the disease. Similarly, 96.5%, 96.5% and 95.0% agreed that avoiding over crowded places, wearing face masks, and the use sanitizers respectively; are ways of preventing the disease. Participants have had lowest level of knowledge questions on the presence of a vaccine/drug, eating of wild animals as a possible source of the disease, and loss of smell as a symptom, in which the respective numbers were 46.8%, 55.3% and 39.7% respectively(42). Study conducted in Uganda showed that knowledge on prevention of COVID-19 were wearing face mask, avoiding going crowded place, isolation of anyone who have contact history with COVID-19 and isolation of people who are infected with COVID-19; 55%, 98%, 100% and 99% respectively. Another cross-sectional study held in Ethiopia among high-risk group population showed that knowledge about COVID-19 prevention using face mask, social distancing, isolation/quarantine and hand washing with water and soap were 67.9%, 82.6%21.2% and 85.4% respectively(27). Cross-sectional study conducted in southwest Ethiopia showed that knowledge of COVID-19 prevention participants have got information through relevant channels in the prison were 75%(43).

2.2.3. Knowledge on presentation(sign/symptom) of COVID-19

People with COVID-19 have had a wide range of symptoms reported – ranging from mild symptoms to severe illness. Symptoms may appear 2-14 days after exposure to the virus. People with these symptoms may have COVID-19: Fever or chills Cough Shortness of breath or difficult breathing, Fatigue Muscle or body aches Headache, New loss of taste or smell, Sore throat, Congestion or runny nose Nausea or vomiting Diarrhea(44). And rapid raise in body temperature, cough which is dry, tiredness, and numerous systemic illnesses including respiratory such as shortness of breath, painful throat, rhinorrhea, hemoptysis, and chest soreness, gastrointestinal such as diarrhea, nausea, and vomiting, musculoskeletal (muscle ache), and change in mental behavior (headache or confusion) were the symptoms reported in the first cases in China(10, 45).

Study held on Jordan showed that knowledge about the main symptoms of COVID-19 were fever, cough and difficulty in breathing was appreciated by 94.5%, 90.5%, 91.9% respectively. 97.5% the participants were aware about diagnosis of COVID-19 in the country, and majority of them were aware of unusual symptoms such as vomiting and diarrhea which are usually considered as a part of the clinical(46).

2.3.Attitude towards COVID-19 Prevention among Prisoners

Cross-sectional study done in China showed that attitude of participants towards COVID-19 prevention; agreed to avoiding going to crowded place and wear face mask were 96.4% and 98% respectively. And 90.8% of respondents agreed that COVID-19 will be successfully controlled(47). Study conducted in Iran showed many of the participants agreed that avoiding mass gathering, health education and quarantine were 98.5%, 97.5% and 96.7% respectively towards COVID-19 prevention(34).

Study held on Jordan on attitude and practice of COVID-19 prevention; 99.7% participants were agreed hand washing for prevention of COVID-19, 68.4% participants believe mask wearing might prevent infection(46).

Cross-sectional study held in Pakistan among university population revealed that; respondents agreed towards prevention of COVID-19 were using face mask, cough and sneezing etiquette, health education to prevent coronavirus 2019 and contact COVID-19 patients were 94%, 89.4%, 23.1% and 28.4% respectively(48).

Online Cross-sectional Study conducted in Katsina state of Nigeria during lockdown showed that 86.98% (374 out of 430 respondents of male) had positive attitudes towards COVID-19 prevention. Seventy one percent(71%) of the respondents agreed on country win against pandemics and 85% of the participants agreed that COVID-19 will be successfully controlled(24).

Another study held in Uganda among high-risk group population showed that attitude toward COVID-19 prevention; 55% respondents agreed wearing a well-fitted face mask is effective on COVID-19 prevention, 53% participants agreed hand washing is effective on COVID-19 prevention and 7% of respondents agreed that black race is protective from the COVID-19 disease(25).

Study conducted among high-risk group population of Ethiopia showed that attitudes towards COVID-19 prevention; 44.3% of respondents believed that Ethiopia can win against COVID-19 and 74.7% of respondents agreed that COVID-19 can be controlled successfully(49). Another study held in Ethiopia revealed that 68.4% and 38.1% of respondents agreed to prevention towards COVID-19 by limiting movement and avoid eating raw vegetables and wild animal products respectively(31).

2.4.Practice towards COVID-19 Prevention among Prisoners

Housing in the prison; according to CDC recommendation for prisoners were keep social distancing with in the prison was individuals should have to sleep head to foot to increase distance between their faces. And also minimize the number of prisoners housed in the same room as much as possible and schedule movements to minimize mixing of individuals from different housing areas(38, 40).

CDC recommended mask for prisoners or correctional centers were cloth face mask. Cloth masks are not PPE but are worn to protect others in the surrounding area from respiratory droplets generated by the wearer(38, 40).

In Pakistan; 73.4% of the respondents have good practice towards COVID-19 prevention. In this study participants practiced to prevent COVID-19; using face mask when in crowds, wash their hands with soap and water quickly after coughing or sneezing or touching contaminated objects like tissue, avoid to touching their face with contaminated hands after coughing or sneezing,

covering their mouth and nose with tissue during cough or sneezing and disposing of contaminated tissue in the bin were 45%, 56%, 61%, 63% and 65.3% respectively(50).

Cross-sectional survey held in Bangladeshi showed that 51.6% of the participants had good practice in prevention of COVID-19. In this study preventive practice of COVID-19 using hand washing or using sanitizer, wear face mask when going outside home, keeping social distancing and avoided gone to crowded place were 75.2%, 70.6%, 66.1% and 62.1% respectively(51).

Another Study held in Jordan revealed that practice towards COVID-19 prevention using regular hand washing with soap and water, using hand sanitizer, avoid hand shaking and drinking ginger with honey were 98.9%, 93.8%, 96.8% and 51% respectively(46).

Study conducted in Nigeria among correctional officers revealed that practice of COVID-19 preventive using hand washing with water and soap, using alcohol-based hand sanitizer, worn face mask in the public place, coughing and sneezing into bent elbow or tissue and immediately discharging it and keeping social distance of at least one meter were 99.3%, 95%, 96.5%, 89.4% and 92.9% respectively(42).

Study conducted on high-risk group population in Ethiopia showed that preventive practice of COVID-19 was 48.7%. In this study hand washing 84.4%, social distancing 75.8%, using face mask 60.5% and stay at home was 14.7%(27). Another study conducted in southwest Ethiopia showed that good practice of COVID-19 preventive was 42.8%. In this study preventive practice of COVID-19; 64.2% of the respondents use hand washing, practice of proper methods of coughing or sneezing 55.7%, 45% of participants were wear face mask in public place, 61.4% of respondents did not gather over crowded areas and 39.4% of respondents keep their social distances(31).

2.5. Factors Associated with Knowledge, Attitude and Practice Towards COVID-19 Prevention Among Prisoners.

2.5.1. Socio-Demographic Factors Associated with Knowledge, Attitude and Practice of COVID-19 Prevention

In different literature, male gender, Age greater than18 years, occupation being health worker, marital status of un-married, education status of Bachelor or higher education, urban residence and income of respondents greater than 3000 ETB were associated socio-demographic factors

with knowledge about COVID-19 prevention(25, 27-29, 52). Study conducted southwest Ethiopia showed socio-demographic factors associated with attitude of COVID-19 prevention was female sex and monthly income at least 1000-1500(31).

Studies conducted in Nepal and Ethiopia showed that socio-demographic factors associated with good practice of COVID-19 prevention were diploma level of education, rural residence, marital status(un-married), income and knowledge of prevention mechanism(25, 27, 31, 32, 52). In contrast that cross-sectional study held in Sidama regional state of Ethiopia showed that marital status of married or widowed were associated with good practice of COVID-19 prevention. The same study revealed that educational status of respondent's diploma and above were also significantly associated with good practice of COVID-19 prevention(53).

2.5.2. Institutional and Individual Factors Associated with Knowledge, Attitude and Practice of COVID-19 Prevention

Study conducted in Uganda showed that sources of information for good knowledge of the respondents significantly associated with TV, radio and newspaper(25). Study held in southwest Ethiopia showed that good knowledge and positive attitude of respondents had significantly associated with COVID-19 preventive practice(30).

Study conducted in Northwest Ethiopia among health care provider revealed that respondents' good knowledge status was significantly associated with positive attitude towards COVID-19(36). Cross-sectional study held in Northeast Ethiopia among high-risk group population revealed that educational status which was diploma/above and respondents who have sufficient/good knowledge towards COVID-19 were significantly associated with positive attitude towards COVID-19(54). Another cross-sectional study conducted in southwest Ethiopia revealed that good knowledge and positive attitude towards COVID—19 prevention were significantly associated with good practice towards COVID-19 prevention practices(31).

2.5.3. Other factors associated with Knowledge, attitude and practice of COVID-19 prevention

Study conducted in Ethiopia showed that respondents contacted free call center 8335 was significantly associated with good knowledge towards COVID-19 prevention(27)

2.6. Conceptual Framework of the Study

Factors associated with knowledge, attitude and practice towards COVID-19 prevention in different studies used for the construction of the following conceptual frame-work, it is also based on an understanding of the factors that can affect knowledge, attitude and practice of prevention regarding COVID-19 pandemic.
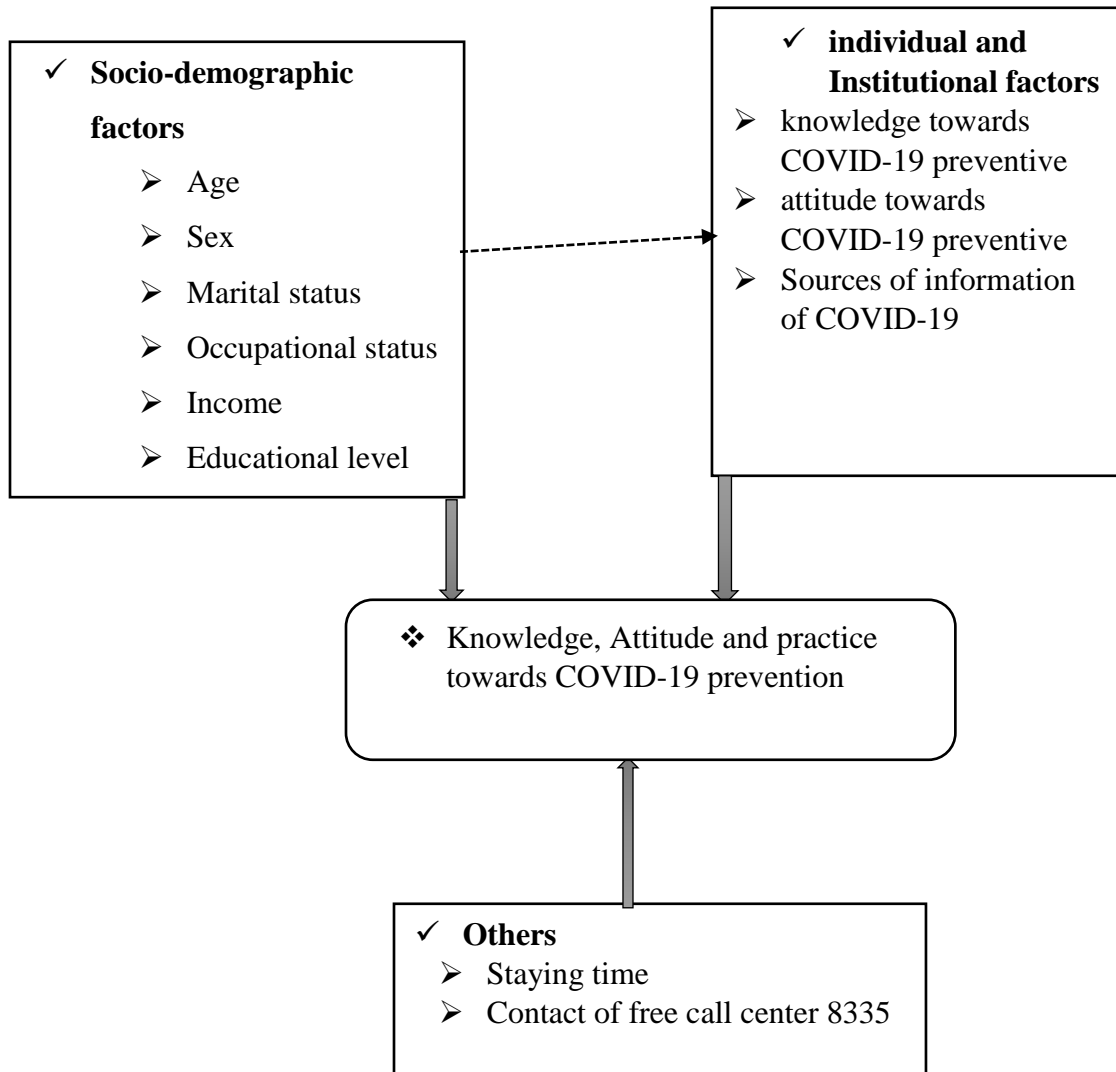
Figure 1: Conceptual framework of knowledge, attitude and practice of COVID-19 prevention and associated factors at Halaba kulito town Prisoner's southern Ethiopia: adapted from different article(25, 27, 31, 36, 50, 51, 53, 54).

CHAPTER THREE: OBJECTIVES

3.1.   General Objective

➢ To assess knowledge, attitude and practice towards the COVID-19 prevention and associated factors among prisoners in Halaba kulito town, southern Ethiopia, 2021.

3.2.   Specific objectives

➢ To determine knowledge towards COVID-19 prevention among prisoners in Halaba kulito town, southern Ethiopia.

➢ To determine attitude towards COVID-19 prevention among prisoners in Halaba kulito town, southern Ethiopia.

➢ To determine practice towards COVID-19 prevention among prisoners in Halaba kulito town, southern Ethiopia.

➢ To identify factors associated with KAP towards COVID-19 prevention among prisoners in Halaba kulito town, southern Ethiopia.

CHAPTER FOUR: METHODS AND MATERIALS

4.1.   Study Area and Period

The study was conducted at Halaba kulito prison in Halaba zone SNNPR, southern Ethiopia. Halaba zone located at distance of 315 km from the capital of Ethiopia; Addis Ababa and 87 km from the capital of southern nation nationalities of people region; Hawassa city. Geographical boarder of the Halaba zone were northeast zone of Lantiro and Sancura district, south of Hadiya zone, east of Badawacho district, west of Kembata and Tambaro zone, and northeast of Oromia Adami Tulu Jodo Kombolcab. Total population of Halaba zone according to Central statistical agency were (census 1999) were, 344579 from this 50.5% were male and 49.5% were female(55). Halaba zone have health coverage were ten health center, two hospitals (one general hospital and one primary hospital) and around 76 health posts with in the zone and around 20 private health facilities. There was One prison(225 male and 17 female prisoners)(56). And two police station which were rural and town. The study was conducted at Halaba kulito town prison in Halaba zone SNNPR, southern Ethiopia. Data collection was under-taken from May 14 up to June 1, 2021.

4.2.   Study design

Institution based cross-sectional study was conducted.

4.3.   Population

4.3.1. Source population

All prisoners at Halaba kulito town prison in Halaba zone, Southern Nation Nationalities' People Region, southern Ethiopia

4.3.2. Study population

All prisoners at Kulito town, prison who fulfill the inclusion criteria in the Halaba zone South Nation Nationalities' People Region, southern Ethiopia

4.4.   Inclusion and exclusion criteria

4.4.1. Inclusion criteria

- All prisoners who stayed more than three months in the Halaba kulito town prison were included in the study.

4.4.2. Exclusion criteria

- Critically ill prisoners.

- Prisoners who lived in prison for only three months or less were excluded because those prisoners who admitted to prison with in the three month and less during data collection period; have recent time exposure of information from different source. This might make more knowledgeable than who stayed more than three months.

4.5. Sampling

4.5.1. Sample size determination

The sample size was estimated by using the single proportion formula using the following assumptions; 50% prevalence, as of the there is no any previous study in this population group, confidence interval (CI) 95%, Z as 1.96, and margin of error as 5% and 10% of non-response rate

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

Were

> ➢ P is 50% proportion of knowledge, attitude and practice of COVID-19 prevention=0.5
>
> ➢ Z α/2 = 95% level of confidence is 1.96
>
> ➢ d= Margin of error 5% is 0.05.
>
> ➢ n = (1.96)2 * 0.5*0.5*/ (0.05)2 = 384

Final sample size after using correction formula; since population is less than 10000

nf=n/1+n/N

nf=384/1+384/225 =142

10% contingency rate will be added for non-response rate

142+142*10/100=142+14=156

nf=156

Since total population in the prison were 242 prisoners at the study area; we have consider to take all eligible prisoners; who fulfil inclusion criteria in this study area(57). This were because of; to keep reliability of the data, for better representativeness and to control sampling error in the study. And also; other study supports census is better for small population to increase accuracy level in the study(58). Thus, all prisoners were included in the study.

4.5.2. Sampling procedure

All prisoners were registered on separate registration book according to their living room; and then the lists of the prisoners were used as entire population frame. And using this frame participants were included in the study according to the inclusion and exclusion criteria. The study used total enumeration by applying inclusion and exclusion criteria on the source population which were 242. From these 214 respondents were fulfil the inclusion criteria.

Total prisoners
(N=242)

28 prisoners stayed less than three months

Total prisoners
who fulfil
eligible criteria

(n= 214)

3 prisoners refuse to participate in the study

n=211

Total prisoners who
were participated in
the study.
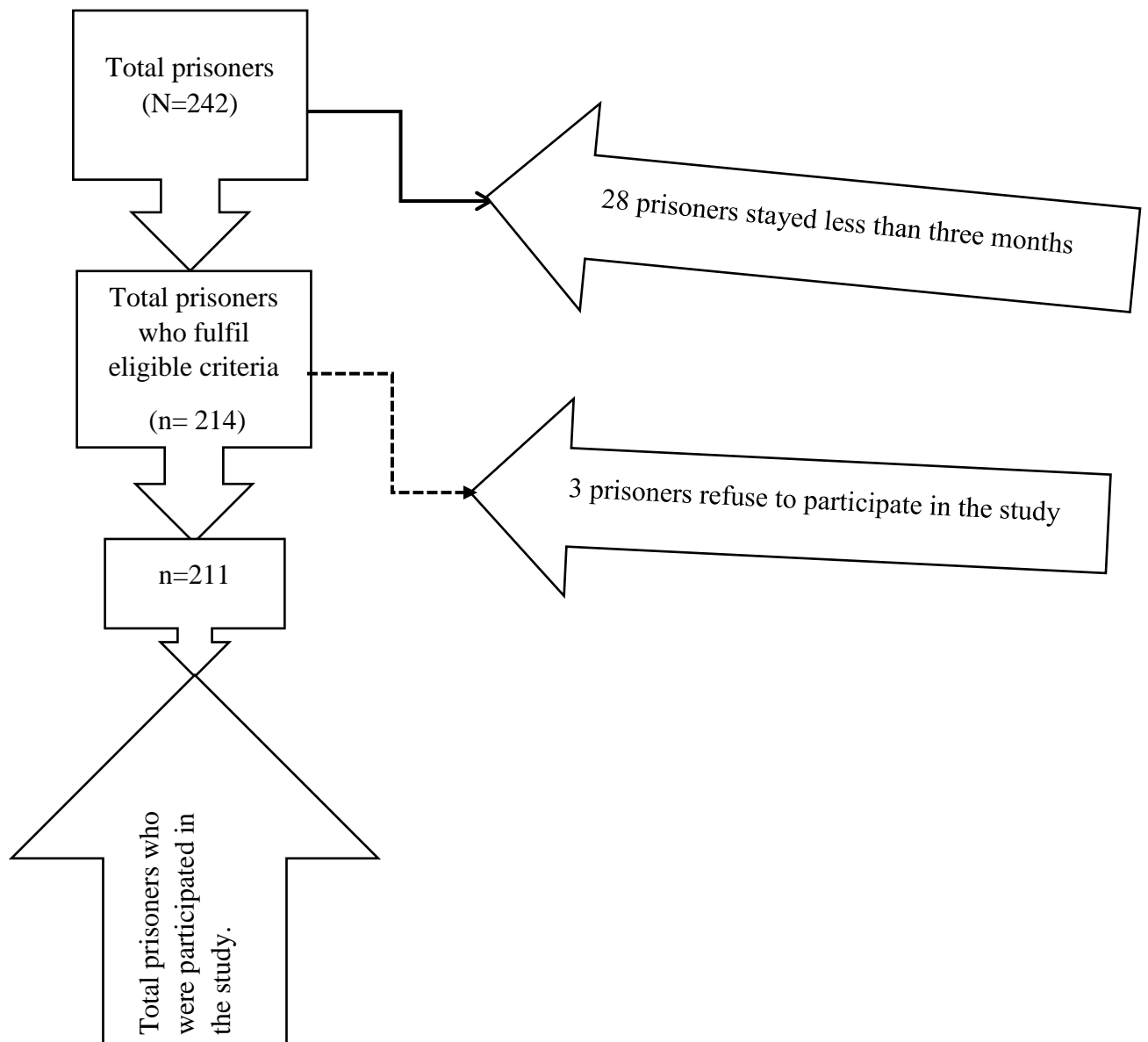
Figure 2: Schematic illustration of sampling procedure at prisoners in Halaba kulito prison in southern Ethiopia 2021.

4.6. Data collection tool and procedure

A structured interviewer administered questionnaire was first prepared in English and then translated in to Amharic and again re-translated to English in order to maintain consistency in translation by language expert. The tool was adapted and structured questionnaire from the different literature (25, 27, 31, 59-61). The contents of the questionnaire address about socio-demographic characteristics of the respondents(61), knowledge about COVID-19 prevention, about attitude towards prevention practices of COVID-19 and about prevention practices of COVID-19. Finally, observational checklist used to assess sleeping condition of prison according to WHO/CDC recommendation; which is head to foot to keep minimum physical distance in the room, availability of window and hand washing facility in the prison. Pretest was done prior to actual data collection at Durame prison Kembata Tembero zone to check avoid unclear, confusion for the respondents at the time of survey, evaluate the reliability of the survey instruments before distribution of instruments and to take corrective action any problem in the questionnaire. Data were collected by five BSc nurses and one senior BSc nurse who have experienced on data collection was supervise data collectors. The principal investigator was followed data collection process daily till completion.

4.7. Variables of the study

➢ Dependent variables
  - o Knowledge towards COVID-19 prevention
  - o Attitudes towards COVID-19 prevention
  - o Practice towards COVID-19 prevention

➢ Independent variables which were categorized under socio-demographic factors were age of the respondents, sex, marital status of the respondents, educational status, occupational status, residency, income, religion and ethnicity.

➢ Independent variables which were categorized under individual factors were knowledge on COVID-19 preventive method (face mask uses, hand washing, uses of sanitizer, avoid hand shaking, avoid touching of one's faces and keeping social distancing) and attitude on COVID-19 preventive practice (face mask uses, hand washing, uses of sanitizer, avoid hand shaking, avoid touching of one's faces, keeping social distancing and vaccination).

➢ Independent variables which were categorized under institutional factors were sources of information about COVID-19 (such as radio, TV, health personnel's, family/visitors and social media) and Housing/numbers of prisoner per room, ventilation and number of prisoners per room for observational part for descriptive only.

➢ Independent variables which were categorized under others such as staying time at prison/time of entry and contact of 8335 free call Centre.

4.8. Operational definitions

Attitude of COVID-19 prevention: The perception or outlook of the respondents towards COVID-19 prevention activities. Participants assessed with ten questions prepared for assess attitude towards COVID-19 prevention. Respondents who answer mean and above were correctly considered to be positive attitude towards COVID-19 prevention below were negative attitude towards COVID-19 prevention(31, 62).

Responses of likert-scale: for direct likert-scale questions strongly agree and agree were assigned as correct response and neutral, disagree and strongly disagree were assigned as incorrect responses. For interrogative likert-scale questions strongly disagree and disagree were correct responses and neutral, agree and strongly agree were incorrect responses(31, 62).

Knowledge on transmission of COVID-19: respondents who responded half and above from COVID-19 transmission questions were considered as good knowledge on transmission of COVID-19 and who responded below half were considered as poor knowledge on COVID-19 transmission.

Knowledge on prevention methods of COVID-19: respondents who responded half and above from COVID-19 prevention questions were considered as good knowledge on prevention of COVID-19 and who responded below half were considered as poor knowledge on COVID-19 prevention.

Knowledge on presentation(sign/symptoms) of COVID-19: respondents who responded half and above from COVID-19 presentation questions were considered as good knowledge on presentation of COVID-19 and who responded below half were considered as poor knowledge on COVID-19 presentation.

Over all knowledge towards COVID-19: participants who have good knowledge towards COVID-19 transmission, prevention methods and presentation of COVID-19 were said to have good knowledge towards COVID-19(27, 31, 62).

No formal education: - educational status of participants who cannot read and write.

Practice of COVID-19 prevention: respondents who responded half and above from COVID-19 practice questions were considered as they have good practice of COVID-19 prevention and who responded below half were considered as they have poor practice on COVID-19 prevention(27, 31, 62).

4.9.   Data quality control

Training was given for data collectors and supervisor by principal investigator. The training was focus on explaining purposes of the study, how to interview questions and fill the questionnaires, neutrality of interviewers, responsibilities of data collector and rights of respondents. Before starting the actual survey, the questionnaire was pretested on 11(5%) respondents in Durame prison at Kembata Tembero zone to know the length, content, question wording, language understand-ability of the question and internal consistency of the questionnaires were checked which was resulted Cronbach's alpha of overall knowledge towards COVID-19 was 0.975, attitudes towards COVID-19 prevention practices were 0.970 and practice towards COVID-19 prevention was 0.906. All the questionnaires were checked daily to ensure that whether they were appropriately filled or not. Any missing data was confirmed before the start of the next day's interview. In addition, qualities of data collection were ensured through close supervision of the data collectors by the principal investigator.

4.10.   Data processing and analysis

After the completion of data collection process, all the questionnaires were checked for completeness, clarity and consistency and then data was entered and cleaned using Epi-data version 3.1 and analyzed by SPSS version 25 statistical software. Descriptive analyses were used to compute the percentages and number of distributions of the respondents by socio demographic characteristics and other relevant variables in the study. The data was fitted with binary logistic regression. The associations between dependent (KAP) variables and explanatory variables were assessed first by bi-variate logistic regression. In bi-variate logistic regression, the variables with

P-value<0.25 were included in multivariable analysis. Multivariable analysis was done for controlling possible con-founders. Adjusted odds ratio (AOR) along with 95% confidence interval was estimated to assess the strength of association and a P-value<0.05 will be considered to declare the statistical significance in the multivariable analysis. Goodness of fit of the final model was checked using Hosmer-Lemeshow test of goodness of fit and multi-collinearity was checked using Variance Inflation Factor (VIF) of predictor variables were maximum of 9.33. Then the results were summarized and presented by texts, tables and graphs.

4.11. Ethical consideration

Before the study begins ethical clearance was obtained from the ethical review committee of Jimma University. Ethical clearance was taken from SNNP region health bureau (public health institute) to the Halaba zone health department to Halaba zone prison institute. Permission was taken from the prison commander. The study subjects were informed about the objective and purpose of the study and written consent was obtained from them. Confidentiality of the information was assured and information was collected secretly. All COVID-19 precaution measures kept for data collectors (face mask, physical distancing and sanitizer used), supervisor (face mask, physical distancing and sanitizer used) and respondents (sanitizer before and after signing of consent form and physical distancing kept as well) as a World Health Organization standard.

4.12. Dissemination plan

The plan of dissemination of the research result includes presentation at Jimma University institute of public health; department of Epidemiology, Research Conferences. The report paper will be also disseminated to SNNPR heath bureau (regional public health institute), Halaba zone and Halaba zone health department. Publication in Scientific journal and online dissemination will be also considered.

CHAPTER FIVE: RESULTS

5.1. Socio-Demographic Characteristics of the Respondents

A total of 214 respondents in the Halaba kulito prison were included with 98.6% response rate. The mean age of respondent's was 33 ± 10 years. Majority, 70% of the respondents were above 25 years old and around 30% of the respondents were age below 25 years. Almost all, (92.9%) of the participants were male. The majority, 130(61.6%) of the respondents were married. From the total, 71.6% of the respondents were attained at least primary school and above. Around half 47.4% of the respondents were farmer and only, 10% were government employee. About three-fourth of participants (76.7%) monthly income was below 2000 Ethiopian Birr. Majority of the respondents 54.5% were came from rural. Most (60%) of the participants were entered before COVID-19 pandemics and stayed above one year in the prison. (Table 1)

Table 1: Socio-demographic characteristics of respondents (n=211) at Halaba kulito prison southern Ethiopia 2021

Variables	Categories	frequency	Percent
Age	Age 18-25 years old	64	30.3
	Age 25 years old and above	147	69.7
Sex	Female	15	7.1
	Male	196	92.9
Marital status	Single	61	28.9
	Married	130	61.6
	Widowed	20	9.5
Educational level of respondent	No formal education	60	28.4
	Formal education	151	71.6
Occupation	Farmer	100	47.4
	Government employee	21	10

	Self-employee	66	31.3
	Student	24	11.4
Income	Monthly income less than 2000 birr	162	76.8
	monthly income above 2000 birr	49	23.2
Residency	Rural	115	54.5
	Urban	96	45.5
Duration in prison (stay time)	3-12 Months	84	39.8
	Above 12 months	127	60.2

Others in ethnicity were Wolayita (=17), Silt'e (=2) and Gurage (=1)

5.2. Knowledge towards COVID-19 prevention among prisoners at Halaba kulito prison southern Ethiopia

One out of two hundred eleven respondents responded as not heard about COVID-19. But almost all respondents responded as they have heard about COVID-19. So; for this respondent we have considered no knowledge about the coronavirus 2019.

5.2.1. Respondents Knowledge about transmission of COVID-19

Almost all respondents (92.4%) have good knowledge on the transmission of COVID-19. Two hundred (94.8%) respondents said that not keeping physical distance can worsen the transmission of COVID-19 disease. From the total participants 96.2%, 91.5% and 92.9% of respondents said transmission methods of COVID-19 are touching of mouse and nose before washing, direct contact of COVID-19 infected individual and hand shaking respectively. (Table 2)

Table 2: Knowledge about COVID-19 transmission among prisoners (n=211) at Halaba kulito prison southern Ethiopia 2021

Questions	Responses	Frequency	Percent
Not Keeping physical distancing	No	11	5.2

	Yes	200	94.8
Touching of mouse and nose before washing of hands	No	8	3.8
	Yes	203	96.2
Direct contact of COVID-19 infected person	No	18	8.5
	Yes	193	91.5
Hand shaking	No	15	7.1
	Yes	196	92.9

5.2.2. Respondents Knowledge about prevention of COVID-19

Majority of the respondents (92.9%) have good knowledge about prevention methods of COVID-19. From the total participants 93.8%, 95.3% and 98.1% respondents replied mask use, washing hands with soap and water at least for 20 seconds, using hand sanitizer as needed were common prevention methods of COVID-19 transmission respectively. Majority (91.5%) of the respondents replayed correctly about the place to use mask. Eight in ten participants answered correctly about the condition when to use hand sanitizer. (Table 3)

Table 3: Knowledge about COVID-19 prevention methods among prisoners (n=211) at Halaba kulito prison southern Ethiopia 2021

Questions	Responses	Frequency	Percent
Wear of face mask prevent COVID-19	No	13	6.2
	Yes	198	93.8
Place of use mask	When we are alone at home	18	8.5
	When we are at crowded area and we go different work place	193	91.5
Washing of hands	No	10	4.7

	Yes	201	95.3
Duration of hand washing	Washing hand at least for 20 seconds	186	88.2
	Others	25	11.8
Using hand sanitizer as needed	No	4	1.9
	Yes	207	98.1
When to use sanitizer	For responded as our hands seems soiled and before meal	38	18
	After touching contaminated materials and after shaking others	173	82

Key: -Others for duration of hand wash**ing** includes participants responded as hand washing for 5 second only and responded as no limited time for hand washing.

5.2.3. Respondents Knowledge about presentation (sign/symptom) of COVID-19

Majority (92.9%) of the respondents knew about presentation/sign and symptom of COVID-19. Almost all (98.6%) participants said dry cough as the symptom of the COVID-19 disease. Nine in ten (92.4%) participants agreed on fever as symptom of the COVID-19 disease. from the total participants 95.7%, 94.8%, 92.9%, 92.4% and 91.9%, were replayed as difficult of breathing, fatigue, sore throat, chest pain and sneezing, are symptoms of COVID-19 disease respectively. (Table 4)

Table 4: Knowledge about COVID-19 presentation among prisoners (n=211) at Halaba kulito prison southern Ethiopia 2021

Variables	Responses	Frequency	Percent	
High-grade fever as presentation of COVID-19	No	16	7.6	
	Yes	195	92.4	
Fatigue as presentation of COVID-19	No	11	5.2	
	Yes	200	94.8	

Dry cough as presentation of COVID-19	No	3	1.4
	Yes	208	98.6
Sneezing as presentation of COVID-19	No	17	8.1
	Yes	194	91.9
Sore throat as presentation of COVID-19	No	15	7.1
	Yes	196	92.9
Chest pain as presentation of COVID-19	No	16	7.6
	Yes	195	92.4
Difficult of breathing as presentation of COVID-19	No	9	4.3
	Yes	202	95.7

5.2.4. Overall knowledge toward COVID-19 prevention among prisoners at Halaba kulito prisoners in southern Ethiopia

Majority (91%) of the respondents have good knowledge about COVID-19. In this study good knowledge towards transmission of COVID-19, presentation of COVID-19 and prevention of COVID-19 were 92.4%, 92.9% and 92.9% respectively. (fig.3)
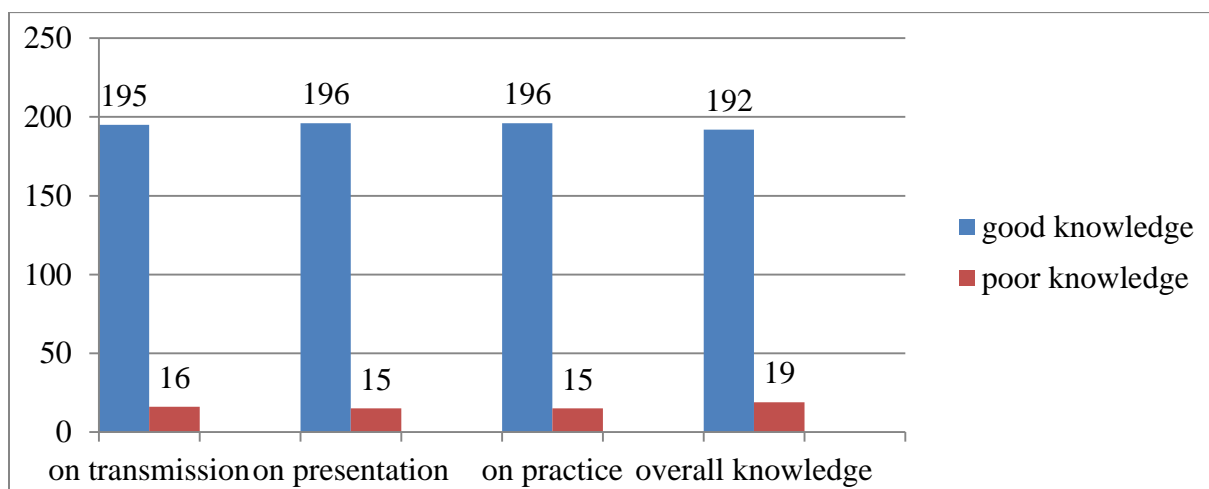
Figure 3: Knowledge status of respondents towards COVID-19 prevention among prisoners at Halaba kulito prison southern Ethiopia 2021.

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5.3. Attitude towards COVID-19 prevention among prisoners at Halaba kulito prison in southern Ethiopia(n=210)

We have not assessed respondents who haven't heard about COVID-19 about attitude. From the total respondents around seven in ten (71.4%) respondents have positive attitude towards COVID-19. About 70% of participants agreed on the all-recommended prevention methods should be applied on all ages of the community. The rest 30% of the respondents agreed on the recommended prevention methods should be applied only on elderly or aged population groups. Below half of the respondents have positive attitude towards vaccine can prevent COVID-19 prevention and it is safe for all ages. About 2/3 of the respondents agreed on blacks are equally at risk of getting COVID-19 as like whites. But the rest 1/3 of the respondents said that blacks are not at risk as like whites. (fig.4)
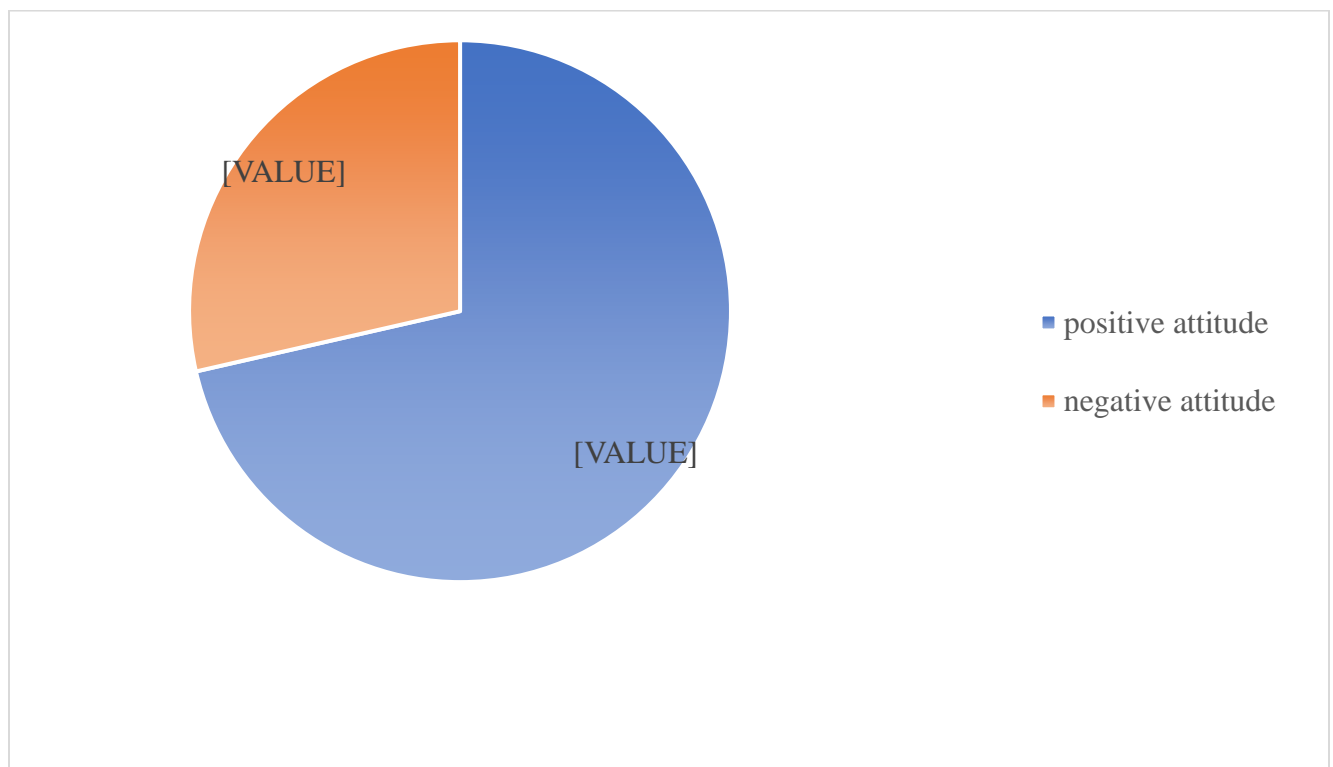
Figure 4: Status of respondents' attitude towards COVID-19 prevention among prisoners at Halaba kulito prison, in southern Ethiopia; 2021.

5.4. Practice towards COVID-19 prevention among prisoners at Halaba kulito prison in southern Ethiopia

We have not assessed respondents who haven't heard about COVID-19 about practice. The level of practice towards COVID-19 prevention practices among prisoners at Halaba kulito prison was 54.8%. Most respondents practiced COVID-19 by keeping physical distance (63.3%), proper hand washing (64%), using proper respiratory etiquette during sneezing and coughing (64.8%) and using masks (63.8%). (Table 5)

Table 5: Practice question versus responses of respondents (n=210) at Halaba prisoners in southern Ethiopia 2021.

Questions	Response's categories	Frequency	Percent
Stayed at home/dorm in the prison	No	89	42.4
	Yes	121	57.6
Kept physical distancing	No	77	36.7
	Yes	133	63.3
Properly hand washed	No	75	35.7
	Yes	135	64.3
Practiced hand sanitized properly	No	57	27.1
	Yes	153	72.9
Using of cloth face mask properly	No	76	36.2
	Yes	134	63.8
Practicing using proper respiratory etiquette during coughing and sneezing	No	74	35.2
	Yes	136	64.8
Avoiding handshaking	No	73	34.8

	Yes	137	65.2

5.4.1. Results of observation assessment; what observed according WHO/CDC recommendation of housing/living condition

Housing condition of prisoners were assessed according to criteria of observation. There were overcrowding, no appropriate place to keep at minimum physical distancing according to WHO/CDC recommendation criteria in the sleeping room. And prisoners couldn't know head to foot sleeping standard according to WHO/CDC recommendation with in the prison. Beds in the sleeping room were nearby each other and around sixty prisoners live together within one room. Windows were high above the wall and hygienic conditions of the rooms were not clean. No hand washing facility in the room and around room in the prison.

5.5. Factors associated with knowledge towards COVID-19 prevention among prisoners.

Exposure variables entered into bivariate analysis were age of respondents, sex of respondents, educational level of respondents, residency of respondents, source of information, monthly income of respondent's, call from 8335 free call center.

From the above variables analyzed in bi-variate analysis; age of respondents, residency of respondents, source of information, monthly income of respondent's, call from 8335 free call center, were significantly associated with knowledge towards COVID-19 prevention and entered in to multivariable analysis. In multivariable analysis; age of respondents and source of information were significantly associated at significance level of 0.05 with knowledge towards COVID-19 prevention.

Age of the prisoners above 25 years old was 4.416 times more likely to be knowledgeable than respondents age below 25 years old; about COVID-19 prevention among prisoners [AOR=4.416, 95%CI= (1.598-12.203), (P<0.004)] and Source of information from media was 4.673 times more likely to be knowledgeable than prisoners who had source of information from person [AOR=4.673), 95%CI= (1.607-13.587), (P<0.005)]. (Table 6)

Table 6: Bivariate and Multivariable analysis of factors associated with knowledge towards COVID-19 prevention among prisoners (n=211) in Halaba Kulito prison

Variables	Categories	Status of knowledge		COR (95% CI)	P-value	AOR (95% CI)	P-value
		Good knowledge	Poor knowledge				
Age	18-25 years old	53(82.8%)	11(17.2%)	1			
	25 years old and above	139(94.6%)	8(5.4%)	3.606(1.375-9.457)	0.009	**4.416(1.598-12.203)** *	0.004
Residency	Rural	102(94.4%)	6(5.6%)	1			
	Urban	90(87.4%)	13(12.6%)	0.407(0.149-1.116)	0.081		
Source of information	Person	35(81.4%)	8(18%)	1			
	Media	156(93.4%)	11(6.6%)	3.242(1.214-8.652)	0.019	**4.673(1.607-13.587)** *	0.005
Income	<2000 E.Birr	151(93.2%)	11(6.8%)	1			
	>=2000 E.Birr	41(83.7%)	8(16.3%)	0.373(0.141-0.989)	0.047		
8335 Free call Centre	No	168(90.3%)	18(9.7%)	1	1		
	Yes	23(95.8%)	1(4.2%)	2.464(0.314-	0.21		

Hosmer and Lemeshow test of fitness =0.802 with chi score of 0.996, significance at p<0.05

Key

Person includes health workers and family/relatives

Media includes Tv, radio and other social media

5.6. Factors associated with attitude towards COVID-19 prevention among prisoners (n=210)

Exposure variables entered into bivariate analysis were age of the respondents, sex of the respondents, educational level of respondent, source of information and knowledge status of participants towards COVID-19. From the above variables analyzed in bi-variate analysis; knowledge status of participants towards COVID-19 and formal education of respondents were significantly associated with attitude towards COVID-19 prevention and entered in to multivariable analysis. In multivariable analysis; both knowledge status of participants towards COVID-19 and formal education of respondents were significantly associated with attitude towards COVID-19 prevention.

Prisoners who have formal education were 2.21 times more likely to have positive attitude towards COVID-19 prevention than respondents who have no formal education [AOR=2.21, 95%CI= (1.01-4.83), (P<0.048)]. And prisoners who have good knowledge towards COVID-19 prevention were 5.41 times more likely to have positive attitude towards COVID-19 prevention than respondents who have poor knowledge towards COVID-19 prevention [AOR=5.41, 95%CI= (1.90-15.38), (p<0.002)]. (Table 7)

Table 7: Bivariate and Multivariate analysis of factors associated with attitude towards COVID-19 prevention among prisoners (n=210) in Halaba Kulito prison

Variables	Categories	Attitude status		COR (95%CI)	p-value	AOR (95%CI)	P-value
		Positive	Negative				
	Not formal	46(78%)	13(22%)	1		1	

				COR	p-	AOR	
Educational level	education						
	Formal education	104(68.9%)	47(31.1%)	0.625(0.309-1.266)	0.192	**2.21(1.01-4.83)** [*]	0.048
Knowledge towards COVID-19	Poor	8(42%)	11(58%)	1		1	
	Good	142(74.3%)	49(25.7%)	3.98(1.51-10.48)	0.005	**5.405(1.901-15.384)** [*]	0.002

Hosmer and Lemeshow test of fitness =0.51 with chi score of 0.434, significance at p<0.05

Factors associated with practice towards COVID-19 prevention among prisoners (n=210)

Exposure variables entered into bivariate analysis were age of the respondents, sex of the respondents, educational status of the respondents, source of information, attitudes towards COVID-19 prevention, knowledge status of participants towards COVID-19.

From the above variables analyzed in bi-variate analysis; knowledge status of participants towards COVID-19 prevention and attitude towards COVID-19 of respondents were significantly associated with practice towards COVID-19 prevention and entered in to multivariable analysis. In multivariable analysis; knowledge status of participants towards COVID-19 and attitudes towards COVID-19 prevention of the respondents were significantly associated with practice towards COVID-19 prevention. Respondents who have good knowledge towards COVID-19 prevention were 3.998 times more likely to have good practice towards COVID-19 prevention than respondents who have poor knowledge towards COVID -19 prevention [AOR=3.998, 95%CI= (1.235-12.940), (P<0.021)]. And respondents who have positive attitude towards COVID-19 prevention were 3.064 times more likely to have good practice towards COVID-19 prevention than respondents who have negative attitude towards COVID-19 prevention [AOR=3.064, 95%CI= (1.607-5.843), (P<0.001)].

Table 8: Bivariate and Multivariate analysis of factors associated with practice towards COVID-19 prevention among prisoners (n=210) in Halaba Kulito prison

Variables	Categories	practice status		COR	p-	AOR	P-

		Good	Poor	(95%CI)	value	(95%CI)	value
Knowledge towards COVID-19	Poor	4(21%)	15(79%)	1		1	
	Good	111(58%)	80(42%)	0.192(0.061 -0.601)	0.005	**3.998(1.23 5-12.940)** [*]	0.021
Attitude towards COVID-19	Negative	20(33.3%)	40(66.7%)	1		1	
	Positive	95(63.3%)	55(36.7%)	3.455(1.838 -6.494)	<0.00 01	**3.064(1.60 7-5.843)** [*]	0.001

Hosmer and Lemeshow test of fitness =0.618 with chi-square score of 0.249, significance at $p<0.05$

CHAPTER SIX: DISCUSSION

This study revealed that majority (91%) of the respondents has good knowledge towards COVID-19 prevention. From the total respondents 71.4% and 54.8% of respondents have positive attitude and good prevention practice towards COVID-19 prevention respectively in Halaba kulito prison in southern Ethiopia.

In this study age of prisoners above 25 years old and prisoners who have get information from media were significantly associated with good knowledge of respondents towards COVID-19 prevention.

Formal educational status of the respondents and good knowledge of the respondents were significantly associated with positive attitude towards COVID-19 prevention.

Respondents' good knowledge towards COVID-19 prevention and positive attitude towardsCOVID-19 prevention were significantly associated with practice towards COVID-19 prevention.

The knowledge status of the prisoners was 91%, this result shows majority of respondents have good knowledge towards COVID-19 prevention. This result is higher than the results of studies held in China 81.5%(33), in Iran 48.8%(34), in Nigeria 67.4%(35), in Uganda 82.4%(25), in North West Ethiopia 73.8%(36), in Addis Ababa Ethiopia 59.5%(27) and in Southwest Ethiopia 53%(31). This might be due to the difference in study period and study design (some of the studies were community based cross-sectional).

In this study good knowledge on transmission of COVID-19 prevention and presentation of COVID-19 were 92.4%, 92.6% and 92.9% respectively. This study revealed that Knowledge on COVID-19 transmission was 92.4%. This result is higher than the results of the studies held in Addis Ababa Ethiopia which showed the level of knowledge of COVID-19 transmission was 52.4%(27), North West Ethiopia 70.1%(29). This difference might be due to the difference in study period and study design.

This study also showed that the level of positive attitude towards COVID-19 prevention was 71.4%. This study is in line with a study held in China which revealed that 75% respondents have positive attitude towards COVID-19 prevention(33). This closeness may be closeness of the study design and study population. This study is lower than study held in Katsina state in Nigeria 86.98% has positive attitude towards COVID-19 prevention(24). This difference might be

difference in the study period, and socio-demographic characteristics. But this result is higher than the result of a studies held in Iran 60.8%(34), in North West Ethiopia 65.7%(36) and in Southwest Ethiopia 54%(31) which revealed that positive attitude towards COVID-19 prevention. This difference might be due to the difference in period of study.

Regarding the practice towards COVID-19 prevention in this study was 54.8%. This study is in line with studies held in Bangladesh on practice of COVID-19 prevention was 51.6%(51) and Southwest Ethiopia 57.2%(31). This closeness is due to similarity in socio-demographic characteristics and study population. This study is lower than study held in Pakistan on practice of COVID-19 prevention 73.4%(50). The difference is might be living condition of the participant, study period, socio-demographic characteristic and study design. Also this result is higher than the results of the held in different parts of Ethiopia which were 48.7%(27) and 42.8%(31). This difference might be due to difference in socio-demographic characteristics, and study design (difference in data collection technique).

Age above 25 years old in this study was significantly associated with good knowledge towards COVID-19 prevention. Studies supported this finding were held in Bangladesh(28), Nepal(52), Uganda(25), northwest Ethiopia(29) and Addis Ababa Ethiopia(27) revealed that age of the respondent was contributing factors of good knowledge towards COVID-19 prevention. This might be explained by age of the respondent above 25 years have good knowledge on COVID-19 prevention method than their counterparts.

This study revealed that source of information from the media was significantly associated with good knowledge towards COVID-19 prevention. Studies supporting this study finding were held in Uganda(25) and south west Ethiopia(30). This might be explained by respondents who have source of information from the media to be one of the contributing factors to be good knowledge on COVID-19 prevention more than that of individuals who have source of information from the person.

This study revealed that respondent's formal educational status was significantly associated with positive attitude towards COVID-19 prevention. Study supporting this finding was held in Dessie town, northeast Ethiopia(54). This might be justified by respondents having formal education status was one of the contributing factors to develop positive attitude towards COVID-19 prevention than those respondents having informal educational status.

In this study good knowledge status of respondents was identified as contributing factor for having positive attitude towards COVID-19 prevention. Study supporting this finding was held in Gondor, northwest Ethiopia(36). This might be explained by good knowledge status of respondents was one of the contributing factors for positive attitude towards COVID-19 prevention than those respondents who have poor knowledge towards COVID-19 prevention than those respondents having poor knowledge towards COVID-19.

This study revealed that good knowledge status of COVID-19 prevention was significantly associated with the good practice towards COVID-19 prevention. Study supporting this finding was held in Addis Ababa Ethiopia(27). Revealed that respondent's good knowledge towards COVID-19 prevention methods have good practice towards COVID-19 prevention. This might be justified by prisoners who have good knowledge towards COVID-19 prevention methods have good practice towards COVID-19 prevention than respondents who have poor knowledge towards COVID-19 prevention methods.

This study revealed that positive attitude towards COVID-19 was significantly associated with the practice towards COVID-19 prevention. Study supporting this finding was held in southwest Ethiopia(31). This might be explained by prisoners who have positive attitude towards COVID-19 prevention methods have good practice towards COVID-19 prevention than respondents who have negative attitude towards COVID-19 prevention methods.

6.1.Strength and Limitation of Study

- ➢ **Strength of study**
- ✓ The strengths of this study are; it was done on relatively large number of prisoners, census method used to eliminate sampling error and selection bias.
- ✓ Observational checklist used to identify housing condition of prisoners living areas.
- ➢ **Limitation of Study**
- ✓ Does not show which occurred first, the exposure or the outcome, 'chicken or egg dilemma'.
- ✓ There might be also recall bias like some question need recall past before imprisonment like income.
- ✓ Some terms in questionnaire had no direct translation in Amharic. COVID-19 itself, sanitizer but tried to explain these terms by their definition.

CHAPTER SEVEN: CONCLUSION AND RECOMMENDATIONS

7.1. Conclusion

Even if respondents have good knowledge towards COVID-19 prevention; the level of practice towards COVID-19 was low. This implies the issue of practice of COVID-19 prevention needs attention. According to observational assessment of housing/living room condition; it is difficult to apply WHO/CDC recommendations to prevent COVID-19 transmission in prison.

This study showed that age 25 and above and source of information from media were significantly associated with knowledge of respondents towards COVID-19 prevention. And formal education of the respondents and good knowledge of the respondents towards COVID-19 were significantly associated with attitude towards COVID-19 prevention. Respondents' good knowledge towards COVID-19 prevention and positive attitude towardsCOVID-19 prevention were significantly associated with practice towards COVID-19 prevention.

7.2.Recommendations

 Based on the findings mentioned above the following recommendations are forwarded for the followings concerned bodies;

➢ **Federal Ministry of Health**

Ministry of health should have to communicate with responsible bodies on number of prisoners per room to prevent over crowdedness in the room.

Also, they should have to communicate responsible body to avail washing facility in the prison and other preventive material in the prison like cloth mask, washing facility like soap water and others

➢ **Halaba Kulito prison institute**

Institute of Kulito prison in particular, better to make sleeping of the prisoners in the bed room should be Head-foot according to WHO/CDC recommendation; to maintain physical distancing with in the bed room.

➢ **Zonal Health department and NGOs**

Health office in particular, needs to give due attention to increase practice of preventing coronavirus by giving attention on prisoners.

> **Researchers**

> Researchers are recommended to do further investigation on this issue in order to familiarize concerned bodies with the problem since COVID-19 is danger pandemics in the world.

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ANNEXES:

Annex 1: English version questionnaire

1. **Information sheet**

My name is ――――――――――――――――――――――――. I am a data collector in a survey being conducted about COVID-19. The investigator is Hailu Dutebo, MPH candidate from Jimma University, institute of Health, faculty of public health department of Epidemiology (General MPH). The aim of this study is to assess knowledge, attitudes, and practices (KAP) towards COVID-19 prevention, and identify associated factors with KAP on COVID-19 prevention the socio-demographic variables to the current level of KAP about COVID-19 prevention, and to determine awareness and health behaviors related to the prevention of COVID-19 among the prisoners in Halaba kulito southern Ethiopia; 2021. The purpose of this study is to generate information about the COVID-19 prevention among the prisoner in Halaba kulito. The study may help stakeholders, policy makers, responsible body and others to take actions based on the finding. The study comprises various socio-demographic and KAP questions. You are chosen to participate in this study. Interview will take not more than 25 minutes.

We assure you that there is no risk or harm in participation of this study. All information will be kept confidentially. Name of a participant will not be written or specified. Your privacy will also be protected and no one shall know your response.

This study benefits you that, you have the right to know about prevention of COVID-19 pandemic. If you are found to have a risk factor and if you are found to be suspected for COVID-19 pandemic, you will be referred for proper advice and further diagnosis and treatment. There is no incentive or payment for participating in this research. Likewise, findings of the study will show the magnitude KAP and associated factors of COVID-19 prevention among the prisoners. This in turn will help to design effective and appropriate measure for prevention and control of COVID-19.

You have full right whether or not to participate in this study. You may respond to all questions or you may not answer to the questions you don't want to or you may quit your participation totally at any time you want. You can ask any questions which is not clear for you

In case if there will be anyone who has COVID-19 presentations among participants of here is counseling format

Advice that the disease is serious which is highly communicable and that you can protect yourself and others from the disease when you take precautionary measures and finally; we advise allow to give sample to check for coronavirus; I will make linkage for screening center nearby facility.

Informed consent

As to the information given ahead, participating in this study has no risk. In order to attain the objective of the study, your participation is vital. For this reason, we are requesting your free will. You are enumerated in this study and your name will not be written on this form and the information you give will never be shared to others. Your genuine response to the interviews will be very important for the purpose of the study. You have a right to refuse in responding any question or the entire question at any time you want.

I have read this form or it has been read to me in the language I comprehend and understand all condition stated above.

Are you willing to participate in this study?

　　　　　　　　Yes ☐　　　　　No ☐

If "Yes" ...proceed with the interview.

If "No" ....thank you and end.

Name of the principal investigator: Hailu Dutebo (BSc)

Advisors: 1. Mr. Masrie Getnet (BSc, MSc in Biostatics, Assistance professor)

Cell phone Number: +251916681058　　　　　　　　　E mail: dutebohailu@gmail.com

Name of interviewer_____　Signature_____

Data of interviewer (Ethiopia calendar) _____/_____/_____

Result of interview: 1. Complete　　2. Refused　　3. Partially complete　　4. Respondent not available

Cheeked by supervisor: Name_____ Signature_____ Data___/_____/___

Section I: Socio-demographic characteristics			
No	Questions	Responses/Alternative choices	Remarks
101	Age of respondents	----------years old	
102	Gender	1. Male 2. Female	
103	Marital status before imprisonment	1. Single 2. Married 3. Divorced 4. Widowed	
104	Educational status of respondents	1. Unable to read and write 2. Primary school 3. Secondary school 4. Tertiary school	
105	Income of the respondents	----------ETB	
106	Residence of participants before imprisonment	1. Urban 2. Rural	
107	Occupation of participants before imprisonment	1. Farmer 2. Government employed 3. Self-employed 4. Student	
108	Length of stay in prison	1. 3-12 months 2. >=12months	
109	Time jailed in prison?	1. Before COVID-19 pandemic in country index cases 2. After COVID-19 pandemics in country index cases	

Section II: knowledge of respondents towards COVID-19 prevention			
S.No	Questions	Responses/Alternative choices	Remark
201	Have you heard of COVID-19?	1. Yes 2. No	If no end
202	Where is the source of information first you heard	1. Television 2. Radio 3. Health workers 4. Social media 5. From family/neighbor/relatives 6. 8335 free call Centre	
203	Is there any free call from 8335 center?	1. Yes 2. No	
204	COVID-19 can transmit through direct contact with COVID-19 patient?	1. Yes 2. No	
205	Can we prevent COVID-19 by Using face and nose mask?	1. Yes 2. No	If no skip Q#206
206	If Q#205 answers that the proper use of mouth and nose mask is protection against COVID-19; where do you think we need to use mouth and nose mask?	1. When we sit alone at home 2. When we are in a crowded area 3. When we go to different work place	
207	Can we prevent COVID-19 by Washing hand with soap and water?	1. Yes 2. No	If no skip Q#208
208	If Q# 207 answers that the washing hand repeatedly with soap and water is protection against COVID-19; how long do you think we need to wash hands to prevent COVID-19?	1. For five seconds 2. For at least 20 seconds 3. No limited minutes for duration of washing hands	

209	Can COVID-19 transmit through Touching of mouse and nose before washing of hands?	1. Yes 2. No	
210	Can we prevent COVID-19 by keeping physical distancing?	1. Yes 2. No	If no skip Q#211
211	If your answer; physical distance to prevent COVID-19; what is minimum recommended physical distance to prevent COVID-19?	1. Being at least half a meter 2. It should at least one meter 3. Being at least 2 meters 4. Being at least 5 meters	
212	Can we prevent COVID-19 by Using hand sanitizer as needed?	1. Yes 2. No	If no skip Q#213
213	If Q# 212 you answer that the using hand sanitizer as needed is protection against COVID-19; when do you think we need to use hand sanitizer?	1. For our hand seems soiled 2. After touching contaminated materials 3. After shaking others 4. Before meal	
214	Can we prevent COVID-19 by Avoid hand shaking?	1. Yes 2. No	
215	Can high fever be presentation of COVID-19?	1. Yes 2. No	
216	Can Weakness be presentation of COVID-19?	1. Yes 2. No	
217	Can dry cough be presentation of COVID-19?	1. Yes 2. No	
218	Can frequent sneezing be presentation of COVID-19?	1. Yes 2. No	
219	Can sore throat be presentation of COVID-19?	1. Yes 2. No	

220	Can chest pain be presentation of COVID-19?	1. Yes 2. No	
221	Can difficulty in breathing be presentation of COVID-19?	1. Yes 2. No	

Section III: Attitude of respondents towards COVID-19 prevention			
S.No	Questions	Responses/Alternative choices	Remark
301	Do you think that COVID-19 prevention measures should only be applied by older adults and age groups who were most risk?	1. Strongly agree 2. Agree 3. Neutral 4. Dis-agree 5. Strongly dis-agree	
302	Do you think that limit of the movement decreases the transmission?	1. Strongly agree 2. Agree 3. Neutral 4. Dis-agree 5. Strongly dis-agree	
303	Do you think that consumptions of raw vegetables and wild animal products have no role in transmissions of COVID-19?	1. Strongly agree 2. Agree 3. Neutral 4. Dis-agree 5. Strongly dis-agree	
304	Do you agree that COVID-19 will finally be successfully controlled?	1. Strongly agree 2. Agree 3. Neutral 4. Dis-agree 5. Strongly dis-agree	
305	Do you have confidence that Ethiopia can win the	1. Strongly agree	

	battle against the COVID-19 virus?	2. Agree	
		3. Neutral	
		4. Dis-agree	
		5. Strongly dis-agree	
306	Have you agree Being black African is protective toward COVID-19 disease?	1. Strongly agree	
		2. Agree	
		3. Neutral	
		4. Dis-agree	
		5. Strongly dis-agree	
307	Have you agree wearing a well-fitting face mask is effective in preventing COVID-19?	1. Strongly agree	
		2. Agree	
		3. Neutral	
		4. Dis-agree	
		5. Strongly dis-agree	
308	Using a hand wash can prevent you from getting COVID-19?	1. Strongly agree	
		2. Agree	
		3. Neutral	
		4. Dis-agree	
		5. Strongly dis-agree	
309	Do you think physical distancing can prevent you from getting COVID-19?	1. Strongly agree	
		2. Agree	
		3. Neutral	
		4. Dis-agree	
		5. Strongly dis-agree	
310	Do you agree taking COVID-19 vaccine preventive from COVID-19 pandemic; if available?	1. Strongly agree	
		2. Agree	
		3. Neutral	
		4. Dis-agree	
		5. Strongly dis-agree	

Section IV: Practice of respondents towards COVID-19 prevention			
S.No	Questions	Responses/Alternative choices	Remark
401	Have you stayed at home to prevent COVID-19?	1. Yes 2. No	
402	Have you Keeping physical distance to prevent COVID-19?	1. Yes 2. No	
403	Have you Washing hands with soap and water for 20 seconds?	1. Yes 2. No	
404	Have you practice Proper uses of hand sanitizer?	1. Yes 2. No	
405	Have you Using cloth face mask properly?	1. Yes 2. No	
406	Have you practiced Proper using respiratory etiquette during coughing and sneezing?	1. Yes 2. No	
407	Have you avoided hand shaking?	1. Yes 2. No	

Observation checklist for housing condition of prisoners in Halaba town prison			
No	Area will be assessed by observers		Remark
411	Is enough room for physical distancing?	1. Yes 2. No	
412	Number of beds per room	----------------------	
413	Heading and footing of prisoners on the beds (observing pillows on the bed)	1. Head-to-foot 2. Head-to-head	

414	Number of prisoners stayed per room?	----------------------	
415	Is there window?	1. Yes 2. No	
416	If yes Q# 414 how many windows are there	------------------------	
417	Are windows opened for ventilation	1. Yes 2. No	
418	Is there hand washing facilities nearby room or toilet	1. Yes 2. No	
419	Are its visible dusts, soiled material in the room	1. Yes 2. No	
420	Is there any source of information (Tv/radio) in the prison	1. Yes 2. No	

Annex 2: የአማርኛ ቅጅ ማጠይቆች

የሚጃ ቅድ

ይህ ቅጅ <u>በሃላባ ቁልቶ ሜራሟ ቤት ታራሟዎችን ስለ ኮሮና በሽታ ማለካያ በተማከተ ያለቻዉን ዕዉቀት አማካከት እና በሚለከል ራገ ድ፤ እና ተያያኽነ ት ያለቸዉን ምክንያቶችን</u>

በተማከተ ለማዉረገ ዉጥና ት የጥናቱ ተሳታፊዎችን ስምማት ማጠየቂያ ነዉ :

ስሜ_____ይባላል:: የዚህ ጥናት ሚጃ ሰብሳቢ ስሆን ጥናቱ ምማክነሄደዉሃለባ ቁልቶ ሜራሟየ ቤት ታራሟዎች ላይነዉ : ጥናቱ የማየጠናዉ <u>ሀይሉ ዱጠቦ</u> ይባላል:: በጅማ ዩኒቨርሲቲ ጤና ኢንስቲትዩት በማበረሰብ ጤና ፋኩልቲ በኢፒዲሚዮጃ ትምህርት ክፍል በአጥቃለይ ማህበራሰብ ጤና ስፔሻልት የድህረ ምቃ ተሜ ነዉ : የጥናቱ ዓላማም በሃለባ ቁልቶ ሜራሟ ቤት ታራሟዎችን ስለ ኮሮና በሽታ ማለካያ በተማከተ ያለቻዉን ዕዉቀት አማካከት እና በሚለከል ራገ ድ እና ተያያኽነ ት ያለቸዉን ምክንያቶችን ለማዉቅ የታለመ ነዉ : ስለዚህ ከዚህ ጥናት ጋር የተያያዘ ጥያቄዎችን እጠይቆታለሁ: ለዚህ ጥናት የተዘጋጁ ጥቂት ቃላ ማጠይቆች ይኖሩፋል ቃለ ማጠይቁምእስከ 25 ደቂቃ ሊፈጅ ይችላል::

የእርሶ ስምምህነ እርስን የማገልፅ ማንኛዉም ሚጃ ለማንኛዉምአካል አይገለፅም: የጥናቱ ተሳታፊ ማሆነ ምነም አይነት ጉዳት የለዉም : ለቃለ ማጠይቁ ከሚጃዉ ጊዜ ዉጪ እርሶ የማስጡነ ማንኛዉምሚጃ በጥብቅ ሚስጥር ይያዛል: የእርሶ በዚህ ጥናት ማሳተፍ ማሉ በማሉ በእርሶ ፍቃደኝነ ት የተማሰረተነ ዉ: በቃለ ማጠይቆቹምም፦ት ካልተሰማዎት የ ማጩረጥ መብቶ የተጠበቀ ነዉ: በጥናቱ ላይ ማንኛምጥያቄ ካለዎት ወይምየጥናቱን የ ሜጬፊሻ ዉጤት ማወቅ ከፈለጉ እባክዎን ለማኘዉን ለማንኛት ወይምማ ጋገር ስለማጇል ስሜቆን ያሳዉቁን በማከተሉት አድራሻዎች ማግኘት ይችላሉ::

የአጥኚዉስም<u>ሀይሉ ዱጠቦ</u>

ስልክ ቁጥር <u>+ 251 9-16-68-10-58</u>

E-mail <u>dutebohailu@gmail.com</u>

በጥናቱ ለ ማሳተፍ ፍቃደኛ: ዎት

1.   አዎ _____ ወደ ማቅጥለዉገ ድ ይሂዱ

2.   አይደለሁም_____ ወደ ማቅጥለዉተሳታፊ ይሂዱ

በኦጋጣሚ ሞሬጃ ስሰበሰብከኮሮና የ ምማስሉ ምጄክትያለዉ/ት ሰዉብኖር የ ሚስጥ ምክር:

የበሽታ አስከፍ ማሆኑን ማረደት/ማዎቅ እና ይህ በሽታ ቅድመ ጥን ቀቄ ስደረግ እራሶትንም ዎገኖትን ከበሽታ ማለከል ስለ ሚቸ ሉ፤ አስፈለግዉን ጥን ቃቄ እንድያደርጉ አና እንድ ሚራሚ የ ምክር አ ገ ልግ ት ማስጠት: :

የ ስ ምምነ ት ማከበ ቂ ያ (ማቁበ ያ) ቅጽ

እኔ የዚህ ጥናት ተሳታፊ በዚህ ቅጽላይ የፈረምኩት በጥናቱ ለማተፍ ማሉ በማሉ ፍቃደኛ ማሆኔን በሚ ጋገ ጥነ ው ፡

የ ጥናቱ ርዕስ "በ ሀ ላባ ቁል ቾ ሜራ ሟ ቤ ት ታ ራ ሟ ቾ ን ስ ለ ፡ ኮ ሮ ና በ ሽ ታ ማለ ካ ያ በ ተ ማ ክ ተ ያ ላ ቸ ዉ ን ዕ ዉ ቀ ት አ ማ ካ ከ ት እ ና በ ማ ለ ከ ል ራ ገ ድ እ ና ተ ያ ያ ኽ ነ ት ያ ላ ቸ ዉ ን ም ክ ን ያ ቶ ች ን ለ ማ ዉ ቅ " የ ማ � ሲ ሆ ን የ ጥ ና ቱ ዓ ላ ማ ም ፣ በ ሀ ላ ባ ቁ ል ቾ ሜ ራ ሟ ቤ ት ታ ራ ሟ ቾ ን ስ ለ ፡ ኮ ሮ ና በ ሽ ታ ማለ ካ ያ በ ተ ማ ክ ተ ያ ላ ቸ ዉ ን ዕ ዉ ቀ ት አ ማ ካ ከ ት እ ና በ ማ ለ ከ ል ራ ገ ድ እ ና ተ ያ ያ ኽ ነ ት ያ ላ ቸ ዉ ን ም ክ ን ያ ቶ ች ን ለ ማ ዉ ቅ የ ታ ለ ማ ነ ዉ ፡

በዚህ ጥናት ማስተፈ ማሉ በማሉ በፍቃደኛነት ላይ የተማረተ ማሆኔን ተገንዘቤለሁ ፡ ለቃለ ማጠይቁ የ ምስጠቸዉ ምላሾችም ሆነ የ ኔ ማንነት በምንም ማኩ እንደማይታወቅና ለሌላ ሰዉ ወይምለሁስተኛ ወገ ን ተለ ልፉ እንደ ማይሄድተነ ግሮኛል ፡

የ እኔ በ ጥናቱ ማተ ፍ ም ሆ ነ አ ለ ማ ተ ፍ በ እ ኔ ላ ይ ተ ጽ እ ኖ ወ ይ ም ጉ ዳ ት እ ን ደ ሌ ለ ዉ ም ተ ነ ግ ሮ ኛ ል ፡ እ ን ዲ ሁ ም በ ዚ ህ ጥ ና ት ማ ተ ፍ ም ን ም አ ይ ነ ት ጉ ዳ ት እ ን ደ ማ ያ ማ ጣ ብ ኝ ተ ግ ን ዘ ቤ ያ ለ ሁ ፡ በ ዚ ህ ጥ ና ት ለ ማ ኛ ሩ ኝ ጥ ያ ቄ ዎ ች ም በ ጥ ና ቱ ተ ሳ ታ ሪ ቴ ላ ለ ኝ ማ በ ት ማ ጋ ገ ር ም ሆ ነ ኃ ላ ፊ ነ ት ያ ለ በ ት ግ ለ ሰ ብ አ ቶ ሀ ይ ሉ ዳ ጠ ማ ሆ ን በ ግ ል ጽ አ ዉ ቂ ለ ሁ ፡

የ ጥናቱ ተሳታፊ ፈርማ_____

ቀለ ማጠይቁ የተደረገበት ቀን _____ የተ ጀ ማ በ ት ሰዓ ት_____

የ ተ ጠ ና ቀ ቀ በ ት ሰዓ ት_____

ቃለ ማጠይቁን ያደረገ ዉበለ ማ ስም_____

ፈ ር ማ_____

ቀ ን _____

የ ተ ቆ ጣ ጣ ሪ ዉ ስ ም_____   ፈ ር ማ_____

ክፍል I: ሶሺዮ-ዴሞግራፍክ ሚ ጃዎች			
ተ.ቁ.	ጥያቄዎች	ማጐስ	አስተያየት
101	ዕድሜ	----------ዓመት	
102	ፆታ	1. ወንድ 2. ሴት	
103	ሚ ምያ ቤት ከማባተዎ በፊት የነበረ የ ጋብቻ ሁኔታ	1. የላገባ/ያላገባች 2. ያገባ/ያገባች 3. የተፋታ/የተፋታች 4. ባል/ምስት የ ሞተችበት/የ ሞተበት	
104	የ ትምህርት ደረጃ	1. ማ ፍ እና ማንበብ የ ሚዮችል/የ ማትችል 2. የ መጀመሪ ያ ደረጃ ትምህርት 3. 2ተኛ ደረጃ ትምህርት 4. ከሁለተኛ ደረጃ ትምህርት በላይ	
105	ወራሀ ዋ ገ ቢ	----------ብብር	
106	የ ሞሪ ያ አከባቢ	1. ከተማ 2. ገ ጠር	
107	ሚ ምያ ቤት ከማባተዎ በፊት የነበሮት የ መተዳደሪ ያ ሥራ	1. ግብርና 2. የ መንግስት ሠራተኛ 3. የ ግል ሥራ 4. ተማሪ	

108	ሃይማኖት	1. ሙስልም 2. ኦርቶዶክስ 3. ፕሮቴስታንት 4. ካቶልክ 5. ሌላ	
109	ብሄር	1. ሀለባ 2. ከምባታ 3. ኦሮሞ 4. ሀድያ 5. ዎለይታ 6. ስልጤ 7. ጉራጌ 8. ሌላ	
110	በሚኖሩበት ቤት የቆዩበት ግዜ	1. 3-12 ወራት 2. 12 ወራት በላይ	
111	ሚኖሩ ቤት የገቡበት ጊዜ	1. ኮሮና ቫይረስ ከማሰቱ ቀደም ብዬ 2. ኮሮና ቫይረስ ከተከሰተ በኃላ	

ክፍል II: ስለ COVID-19 ማክላከል ዕዉቀት ለማካት የምጠየቁ ጥየቄዎች፡ ፡		
ተ.ቁ	ጥያቄዎች	መልሶቻቸዉ	ምኒሚ
201	ስለ COVID-19 ሰምተዉያ ዉቃሉ?	1. አዎ 2. አይደለም	መልሶት አይደለም ከሆነ

			ጨፌ ሶዎል
202	ለመጀመሪያ ጊዜ ስለኮቪድ-19 በሽታ የሰሙት ከየትነዉ	1. ከቴልቪዥን 2. ከሬዲዮ 3. ከጤና በለሙያዎች 4. ከማህበረዊ ምድያ 5. ከቤተሰብ/ከጎሮቤት/ከዘመድ 6. ከ 8335 ጥር ማዕካል	
203	ስለኮሮና ሽይረስ ከ 8335 ማዕካል ተደዉሎላት ያዉቃል	1. አዎ 2. አይደለም	
204	ከ COVID-19 ታማሚጋር የሚፈረግ ቀጥታ ንክኪኮሮና ሽይረስ በሽታን ያስተለልፋል	1. አዎ 2. አይደለም	
205	የ አፍና አፍንጫሽፈኛ ጨምብልን በአግባቡ ማጠቀምከኮቪድ-19 በሽታ ይከለከለናል	1. አዎ 2. አይደለም	ሜሶት አይደለም ከሆነ ጥያቄ ቁጥር 206 ይለፉ
206	ጥያቄ ቁጥር 205 ላይ አፍና አፍንጫሽፈኛ በአግባቡ ማጠቀምየ COVID-19 ማለከያ ዘዴነ ዉብሎሜሶ ከሆነ አፍና አፍንጫ ማሽፈኛ የትየት ማጠቀምይኖርብናል ብሎ ያስባሉ?	1. ብቻችንን እቤት ቁጭ ባልን ግዜ 2. ህዝብ የሚዘበት አከባቢ ስንሆን 3. ወደተለያዩ አገልግሎት ሰጪተቁማት ስንሄድ	
207	እጅን በዉሃና በሳሙ በተደጋጋሚማታጠብ ከኮቪድ-19 በሽታ ይከለከለናል	1. አዎ 2. አይደለም	ሜሶት አይደለም ከሆነ ጥያቄ ቁጥር 208

			ይለፉ
208	ጥያቄ ቁጥር 207 ላይ እጅን በጭሃ ና በሳሙና በተደጋጋሚማጠብ የ COVID-19 ማከላከያ ዘዴነ ዉብሎሜሶ ከሆነ እጅን ለምን ያህል ግዜ ማጠብ ከ COVID-19 ልከላከል ይችላል?	1. ለ 5 ስኮንዶች ያህል 2. በትንሹ ለ 20 ስኮንዶች ያህል 3. በደቂቃ የተወሰነ ነገር ያለ አይማስለኝም	
209	ባልታጠበ እጅ አፍና አፍንጫ መንካት ኮሮና ቫይረስ በሽታን ያስተለልፋል	1. አዎ 2. አይደለም	
210	አካላዊ ሪቀትን ማጠበቅ ከኮቪድ-19 በሽታ ይከለከለናል	1. አዎ 2. አይደለም	ማኅሶት አይደለም ከሆነ ጥያቄ ቁጥር 211 ይለፉ
211	ጥያቄ ቁጥር 210 ላይ ሪቀትን ማጠበቅ የ COVID-19 ማከላየከያ ዘዴነ ዉብሎሜሶ ከሆነ አካላወሪቀት ማለት በትንሹምን ያህል ብሆን ይማራል?	1. በትንሹግማሽ ሜቅር ማሆን ይኖርበታል 2. በትንሹ 1 ሜቅር መሃን ይኖርበታል 3. በትንሹ 2 ሜቅር ማሃን የኖርበታል 4. በትንሹ 5 ሜቅር ማሃን ይኖርበታል	
212	ሳኒ ታይዘርን በአስፈላጊ ጊዜ ማከቀም ከኮቪድ-19 በሽታ ይከለከለናል	1. አዎ 2. አይደለም	ማኅሶት አይደለም ከሆነ ጥያቄ

			ቁጥር 213 ይለፉ
213	ጥያቄ ቁጥር 212 ላይ ሳኒ ታይዘርን በአስፈላጊ ጊዜ ማጣቀምብሎ ሜሶ ከሆነ ሳኒ ታይዘርን መቼ መቼ ማጣቀምያለብን ይማስላቸዋል?	1. እጃችን በጣምየ ጭቀየ ማስ ሎስቆሽሽ 2. የተለያዩ ነገሮችን ከነ ካን 3. ሳዉክ ጮጡን 4. ምግብ ለመጣ ብ	
214	አለማ ጬ በጥ ከ ኮ ቭ ድ-19 በ ሽ ታ ይ ከ ለ ከ ለ ና ል	1. አዎ 2. አ ይ ደ ለ ም	
215	በ ኮ ቭ ድ-19 የ ተ ያ ዘ ዉ ሰ ዉ ከ ፍ ተ ኛ ት ኩ ሳ ት ስ ሜ ቱ ይ ኖ ሮ ዋ ል	1. አዎ 2. አ ይ ደ ለ ም	
216	በ ኮ ቭ ድ-19 የ ተ ያ ዘ ዉ ሰ ዉ ድ ካ ም ስ ሜ ቱ ይ ኖ ሮ ዋ ል	1. አዎ 2. አ ይ ደ ለ ም	
217	በ ኮ ቭ ድ-19 የ ተ ያ ዘ ዉ ሰ ዉ ደ ረ ቅ ሳ ል ስ ሜ ቱ ይ ኖ ሮ ዋ ል	1. አዎ 2. አ ይ ደ ለ ም	
218	በ ኮ ቭ ድ-19 የ ተ ያ ዘ ዉ ሰ ዉ በ ተ ጋ ጋ ሚ ማ ስ ነ ጠ ስ ስ ሜ ቱ ይ ኖ ሮ ዋ ል	1. አዎ 2. አ ይ ደ ለ ም	
219	በ ኮ ቭ ድ-19 የ ተ ያ ዘ ዉ ሰ ዉ የ ጉ ሮ ሮ ህ ማ ም ስ ሜ ቱ ይ ኖ ሮ ዋ ል	1. አዎ 2. አ ይ ደ ለ ም	
220	በ ኮ ቭ ድ-19 የ ተ ያ ዘ ዉ ሰ ዉ የ ደ ረ ት ዉ ጋ ት ስ ሜ ቱ ይ ኖ ሮ ዋ ል	1. አዎ 2. አ ይ ደ ለ ም	
221	በ ኮ ቭ ድ-19 የ ተ ያ ዘ ዉ ሰ ዉ ለ መ ተ ን ፈ ስ የ ማ ከ በ ድ ስ ሜ ቱ ይ ኖ ሮ ዋ ል	1. አዎ 2. አ ይ ደ ለ ም	

ክፍል III: ስለ COVID-19 ማከላከል አማካከት ለማካካት የወጡ ጥያ ቄዎች፡ ፡			
301	የ COVID-19 ማከላከያ መነገዶችን ተግባራዊ ማድረግ ያለባቸዉ ባለዛዉንቶች እና ተጋላጭ በሆኑ ሰዎች ብቻ ናቸዉ፡ ፡	1. በደምብ እስማማዉ 2. እስማማዉ 3. ሀሳብየለኝም 4. እቃወማዉ 5. በደምብ እቃወማዉ	
302	የእንቅስቃሴ ገደብ ማጣል የ COVID-19 ስርጭትን ልቀንስ ይችላል፡ ፡	1. በደምብ እስማማዉ 2. እስማማዉ 3. ሀሳብየለኝም 4. እቃወማዉ 5. በደምብ እቃወማዉ	
303	ጥሬ አትክልቶችንና የዱር እንሳሳቶችን ዉጦች ማጠቀም በ COVID-19 ስርጭት ላይ ምንም ተፀዕኖ የለም፡ ፡	1. በደምብ እስማማዉ 2. እስማማዉ 3. ሀሳብየለኝም 4. እቃወማዉ 5. በደምብ እቃወማዉ	
304	በስተ ማጫፈሻ የ COVID-19 ስርጭት ይገ ታል፡ ፡	1. በደምብ እስማማዉ 2. እስ ማማዉ 3. ሀሳብየለኝም 4. እቃወማዉ 5. በደምብ እቃወማዉ	
305	እትዮጵያ የ COVID-19 ስርጭትን ትቆጣጠራለች በምብ ለዉ ሀ ሳ ብ ይስ ማማሉ?	1. በደምብ እስ ማማዉ 2. እስማማዉ 3. ሀሳብየለኝም 4. እቃወማዉ 5. በደምብ እቃወማዉ	
306	ጥቁር ህዝቦችን COVID-19 በሽ ታ አያጠቃም በምእ ዉ ሀሳብ ይስ ማሉ?	1. በደምብ እስ ማማዉ 2. እስማማዉ 3. ሀሳብየለኝም	

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		4. እቃወማለዉ	
		5. በደምብ እቃወማለዉ	
307	የፌት ማሽፈኛ ጭምብልን በአግባቡ ማጥቀም የ COVID-19 ስርጭት ለመግታት ያገለግላል በምኣዉህሳብይስማሙ?	1. በደምብ እስማማለዉ 2. እስማማለዉ 3. ሀሳብየለኝም 4. እቃወማለዉ 5. በደምብ እቃወማለዉ	
308	በተደጋጋሚ እጅን በዉና በሳሙና ማጠብ በኮሮና ከሟዝ ይከላከላል በምኣዉ ሀሳብ ይስማሙ?	1. በደምብ እስማማለዉ 2. እስማማለዉ 3. ሀሳብየለኝም 4. እቃወማለዉ 5. በደምብ እቃወማለዉ	
309	አካላዊ ሪቀትን ማጠበቅ በኮሮና ከሟዝ ይከላከላል በምኣዉሀሳብይስማሙ?	1. በደምብ እስማማለዉ 2. እስማማለዉ 3. ሀሳብየለኝም 4. እቃወማለዉ 5. በደምብ እቃወማለዉ	
310	ኮሮና ቬይረስ ክትበት ብሰጥ ከቭድ-19 ወረርሽኝ ማከለከል ይቻላል	1. በደምብ እስማማለዉ 2. እስማማለዉ 3. ሀሳብየለኝም 4. እቃወማለዉ 5. በደምብ እቃወማለዉ	

ክፍል IV: ተሳታፊዎች የ COVID-19 ማከላከያ መንገዶችን እንደምተገብሩ ለማዋት የሚጠየቁ ጥያቀዎች	
401 ከሚከተሉት ዉስጥ የትኛዉ/ፊትኛዎቹን የ COVID-19 ማከላከያ መንገዶችን በትክክል ይተገብራሉ?	1. በቤት መቆየት 2. አካላዊ ሪቀትን ማጠበቅ 3. በሳሟና በዉሃ እጅን በተደጋጋሚለ20 ስኮንዶች ያህል ማጠብ 4. ሳኒታይዘርን ባግባቡ ማጠቀም

		5. የፈት ማሻፈኛ ጭምብል ባግባቡ ማጠቀም
		6. ሌሎችን ለለማከል ስያስለኝ እና ስያስነ ጥሳኝ በክነ ዴበማሻፈን
		7. ባለሜጨበጥ

Practice part 4. 2. የታራሟዎች የማሿርያ ቤት ሁኔታ ለማካታል የምዕከታ ዝርዝር			
ቁጥር	ሜራጀ ሰብሰብ የማ ማ ም		ምኒ ሚ
411	ለአካላዊ ማዓያየት በቂ ቦታ አለ	1. አዎን 2. አይደለም	
412	በአንድ ክፍል ዉስጥ የአልገዎች ብዛት	------------------	
413	ታራሟዎች አተኛኛት(ጭቅላት እና ፈለግ) አልገ ለይ ትረሶችን ማዋት	1. ከራስ ወደ እግር 2. ራስ ወደ ራስ	
414	በአንድ ክፍል ስንት :ታራሚ የርፉል(ይቆያል)	------------------	
415	ሜራፍያ ክፍል ማስታዎት አለ	1. አዎን 2. አይደለም	
416	አዎ ከሆነ ጥያቄ 415 ስንት ማስኮቶች አሉ	-----------------------	
417	ለአየር ማጭፈሻ ማስኮቶች ተከፍተዋል	1. አዎን 2. አይደለም	
418	በአቅራቢያ በማኛዉ በሜጽደጀ ቤት የእጅ ማታጠብያ ዉሃና ሰሜ አለ	1. አዎን 2. አይደለም	
419	በክፍሉ ዉስጥ በዓይን የሚታይ አቢራ የቆሸሹ ነገሮች ይታያሉ	1. አዎን 2. አይደለም	
420	በሜራሟዎ ለታራም ስለ ኮሮና በሽታ የሚጀ ምንጭቲቪ/ራዲዮ) አለ	1. አዎን 2. አይደለም	

Annex 3: 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: __HAILU DUTEBO_____

Signature: _____

Name of the institution: _____

Date of submission: _____

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

Name and Signature of the first advisor

_____Mr. MASRIE GETNET_____

_____