Sci. Technol. Arts Res. April-June 2020, 9(2), 23-38
DOI: https://doi.org/10.20372/star.v9i2.03
ISSN: 2226-7522 (Print) and 2305-3372 (Online)
Science, Technology and Arts Research Journal
Sci. Technol. Arts Res. J., April - June 2020, 9(2), 23-38
Journal Homepage: https://journals.wgu.edu.et

Original Research

Knowledge, Attitudes, and Prevention Practices towards COVID-19 in Selected Urban Communities of Wollega Zones, Western Ethiopia: A Community-Based Survey

Dessalegn Wirtu[1], Mebrate Dufera[2*], Oljira Kenea[2], Gemechu Tiruneh[1], Zelalem Desalegn[1], Asebe Amenu[3]
[1]Department of public Health, Wollega University, P.O. Box No: 395, Nekemte, Ethiopia.
[2]Department of Biology, Wollega University
[3]Department of sociology and anthropology, Wollega University

Abstract

Health measures like physical distancing, hand hygiene and wearing a face mask are the frontline intervention methods of COVID-19. However, the level of knowledge, attitude, and practice of these measures among people dwelling in highly populated urban areas of western Ethiopia is not unknown. This study aims to assess the level of knowledge, attitudes, and practices of urban communities towards COVID-19 in selected urban communities in two Wollega Zones. A community-based cross-sectional study design was conducted from May to August 2020 in six purposefully selected towns. The total sample size was determined using a single population proportion formula. A multistage random sampling technique was employed. The data were analysed using SPSS version 20 for Windows. Descriptive data were presented using tables and figures. The crude OR was calculated, and variables found to be significant at a p-value less than 0.25 with a 95% CI were transported to the second model to estimate the adjusted odds ratio. A total sample size of 3,426 people participated in the study. Nearly all 3368 (98.3%) of the respondents had ever heard about the Corona virus. The majority, 2909 (84.9%), have moderate knowledge about the transmission and prevention of COVID-19. Fifty-nine percent (2020) have a positive attitude towards the prevention of COVID-19. Regarding the prevention of COVID-19, 1959 (57.2), we were practicing the recommended preventive health measures. The residential area, occupation, educational status, and knowledge level of the respondents were found to be significantly associated with prevention practices. The results underscore that although the knowledge level about COVID-19 is high, preventive health measure practices among the study population are weak. The health sector and other partners should pay attention to educating and promoting the implementation of the recommended preventive measures in the community.

Article Information

Article History:
Received : 21-04-2020
Revised : 15-05-2020
Accepted : 29-06-2020

Keywords:
Attitude, COVID-19, Knowledge, practices, Prevention

*Corresponding Author:
Mebrate Dufera

E-mail:
mebratedufera@gmail.com

INTRODUCTION

Corona Virus Infectious Disease (COVID-19) is a pandemic disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (Bos *et al.* 2020). In late December 2019, a

novel coronavirus was identified in China, causing severe respiratory disease, including pneumonia. It was originally named Novel Coronavirus, and the World Health Organisation (WHO) advised the following language associated with the virus: The virus causing the infection has been named severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (WHO, 2020a).

On January 12, 2020, the WHO confirmed that a novel coronavirus (2019-nCoV, officially known as SARS-CoV-2 or COVID-19) is the cause of a respiratory illness in a cluster of people in Wuhan City, Hubei Province, China, from where it spread rapidly to over 198 countries, which was first reported to the WHO on December 31, 2019 (WHOb, 2020; Aggarwal, 2020). The case fatality ratio for COVID-19 has been much lower than SARS of 2003, but the transmission has been significantly greater, with a significant total death toll (Aggarwal, 2020). Knowledge and awareness of the mode of disease transmission, basic hygiene principles, and measures in public health are vitally important for developing effective control measures.

Common symptoms include fever, cough, fatigue, shortness of breath, and loss of smell (Salman *et al.* 2020). While the majority of cases result in mild symptoms, some progress to viral pneumonia, multi-organ failure, or cytokine storms (Hui *et al.* 2020). The time from exposure to the onset of symptoms is typically around five days but may range from two to fourteen days (Velavan & Meyer, 2020).

The virus is primarily spread between people during close contact, often via small droplets produced by coughing, sneezing, or talking. The droplets usually fall to the ground or onto surfaces rather than remaining in the air over long distances. People may also become infected by touching a contaminated surface and then touching their face. Over time, on surfaces, the amount of virus declines until it is insufficient to remain infectious, but it may be detected in the laboratory for hours or days (Nkwoemeka et *al.*, 2020). It is most contagious during the first three days after the onset of symptoms, although spread may be possible before symptoms appear and in later stages of the disease. The standard method of diagnosis is real-time reverse transcription polymerase chain reaction (rRT-PCR) from a nasopharyngeal swab (CDC, 2020). Chest CT imaging may also be helpful for diagnosis in individuals where there is a high suspicion of infection based on symptoms and risk factors; however, guidelines do not recommend using it for routine screening (Salehi *et al.* 2020).

Recommended measures to prevent infection include frequent hand washing, maintaining physical distance from others (especially from those with symptoms), covering coughs, and keeping unwashed hands away from the face (De Simone *et al.,* 2020; Public Health England, 2020). In addition, the use of a face covering is recommended for those who suspect they have the virus and their carer (CDC, 2020). Recommendations for face covering use by the general public vary, with some authorities recommending against their use, some recommending their use, and others requiring their use (Feng *et al.*, 2020; Tait, 2020).

In Ethiopia, the outbreak of the coronavirus was officially confirmed in Addis Ababa on March 13, 2020. The first coronavirus case was reported in the country, and the victim later identified was a Japanese citizen (WHOc, 2020). At the time of this study, the Ethiopian Ministry of Health had reported a total of 131 confirmed cases of Corona virus disease (COVID-19) from different parts of the country, indicating the rising spread of the disease since March 13, 2020, the first COVID-19 report in the country (WHOd, 2020).According to the Ethiopian national COVID-19 research priorities and alignment developed in May 2020, 14 research priorities

were identified. The document calls attention to convening research based on the proposed thematic areas. Therefore, the current research falls under the category of non-pharmaceutical intervention as suggested in the document (MoSHE, 2020).

However, regarding COVID-19 prevention, the level of knowledge, attitudes, and barriers of people dwelling in highly populated urban areas of western Ethiopia were unknown. There was no published report on this issue that warranted undertaking the study. Therefore, this study aims to assess the level of knowledge, attitudes, and practices of urban communities towards COVID-19 prevention methods in selected urban communities in three Wollega Zones, Western Ethiopia.

METHODS

Description of the Study Area

The study was conducted in selected populated towns found in the three Wollega zones (East Wollega, West Wollega, and Horro Guduru Wollega). The towns were purposefully selected for their higher demographic density and mass population mobility. The towns are: Nekemte, Arjo Gudatu, Anger Gute, and Sibu Sire (East Wollega); Gimbi (West Wollega); and Shambu (Horro Guduru Wollega) (Figure 1).

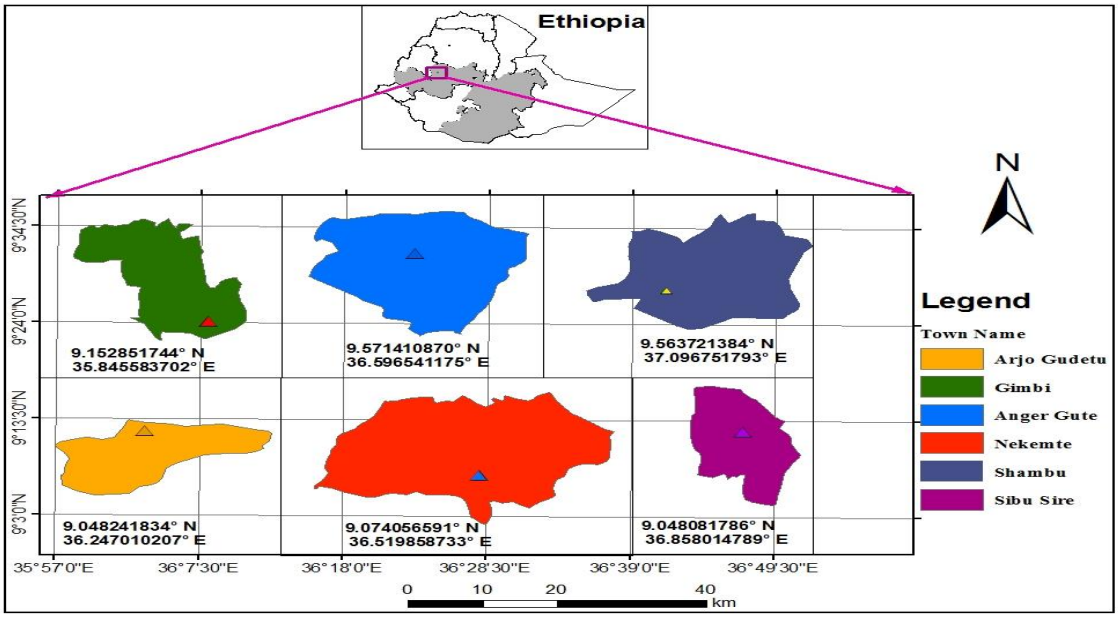

Figure 1 *Study area Map*

Study design

A community-based cross-sectional study design was implemented from May to August 2020 in selected urban communities of the three Wollega Zones.

Inclusion criteria

All household heads of the selected urban settings; who have lived in the respective urban setting at least for 6 months and age ≥ 18 years.

Sample population

All randomly selected house heads that fulfil the inclusion criteria were included in the study. The total sample size required for this particular survey was 3,426 considering a 20% to none response rate with a design effect of 2.

Sampling technique

The urban settings were selected purposefully based on their population size and mass mobility.

The total sample was proportionally shared among the towns and kebeles according to their population size. Then, a multistage systematic random sampling method was applied to select households and respondents from the selected kebeles. Only household heads or representatives aged greater than or equal to 18 years were approached and interviewed.

Instrument preparation

For this study, a questionnaire that was developed by WHO training material for the detection, prevention, response, and control of COVID-19 was used and subsequently pilot tested. Before the final survey, modifications to the questionnaires were made based on the results of the pilot test. Finally, a 76-item survey instrument was developed using WHO course materials on emerging respiratory viruses, including COVID-19 (18). It was translated from the English language to Afan Oromo, the regional language, and then back translated to English by people who are proficient in both languages to maintain its consistency and meaning. Data collection was done in Afan Oromo to ensure there would be no language barrier.

Data collection procedure

The selected household heads from selected "gare" were identified and introduced to the study purpose and objectives in a private setting. Data collection occurred in a private place that provides social distancing around the selected households. Then they were interviewed by a trained data collector after written consent was obtained from each respondent, and the consent form was attached to the first page of each questionnaire.

Data Analysis

The data were cleaned and checked on the field, on a daily basis, and before data entry to the computer. The data were analysed using SPSS version 20 for Windows. Descriptive data analysis was done, and frequency and percentages were presented using tables and figures. Crude OR was calculated to identify associations of variables with the outcome variable, and those variables found to be significant at PV less than 0.5 with a CI of 95% were transported to the second model to estimate the adjusted odds ratio.

Ethical Considerations

Ethical clearance was obtained from the Research Ethics Review Committee of Wollega University (Ref. No. WU/RD/383). Permission was secured from all urban health offices through a formal letter. Written informed consent was obtained from each respondent before the interview.

RESULTS

Socio-demographic characteristics of the respondents

The cross-sectional survey was conducted in six districts of urban population found in East, West, and Horro Guduru Wollega Zones of Western Ethiopia, and 3426 households (male = 2645 and female = 781) were included in the quantitative part of the study. Slightly more than half of the respondents were from Nekemte town, and the second highest proportion was from Gimbi town. Both towns contributed 1855 (54.1%) and 660 (19.3%), respectively. The majority, 2645 (77.2%), of the respondents were males. The age of about one-third, 1345 (39.3%), of the participants' lies within the age range of 25–34 years, followed by 35–44 years, 1138 (33.2%). About eighty-four percent of them were married. The major ethnic group was the Oromo, accounting for 90.4%. Regarding their educational attainment, a quarter of the study participants, 884 (25.7%), have completed either 10^{th} or 12^{th} grade. Participants who attended primary and secondary school are comparable to those who have attended college. About one-fifth, 713 (20.8%), of the total respondents had ever attended a primary or secondary cycle education, while 750 (21.9%) reached a college level. The main source of

income or occupation of the household heads was daily labour, which is 350 (39.4%). One-fourth, 868 (25.3%), of the respondents were engaged in trade activities and government employees, 807 (23.6%). More than half, 1978 (57.7%), of the study participants were protestant by religion, followed by orthodox (894, 26.1) and Muslim (483, 14.1). Half of the respondents reported having 4 or 5 family members, while 939 (27.4%) reported having 1-3 family members (Table 1).

Table 1

Socio-demographic characteristics of the respondents, 2020

Characteristics	Category	Number(Percentage)
	Male	2645(77.2)
Sex	Female	781(22.8)
	≤ 24	176(5.1)
Age group of household head	25-34	1345(39.3)
	35-44	1138(33.2)
	45-54	434(12.7)
	55-64	256(7.5)
	≥65	77(2.2)
Resident Town	Gimbi	660(19.3)
	Arjo Gudatu	38(1.1)
	Nekemte	1855(54.1)
	Anger Gute	307(9.0)
	Sibu Sire	216(6.3)
	Shambu	350(10.2)
Educational status	Cannot read & write	191(5.6)
	Read and write	382(11.2)
	Primary & Secondary school	713(20.8)
	10 or 12 complete	884(25.8)
	College	750(21.9)
	Degree & above	506(14.8)
Occupation	Trade	868(25.3)
	Employed	807(23.6)
	Daily laborer	1350(39.4)
	Farmer	223(6.5)
	Others	178(5.2)
Family size	1-3	939(27.4)
	4-5	1738(50.7)
	≥ 6	749(21.9)
	Second	860(25.1)
	Middle	446(13.0)
	Fourth	691(20.2)
	Highest	679(19.8)

Sources of information about COVID-19

The sources of information on CoVID-19 for the respondents were TV/radio, 2490 (72.7%), friends, 1921(56.1%), and social medias, 1620(47.3) (Table 2).

Table 2

Sources of information about COVID-19 for the study population, 2020

Characteristics	Category	Number(Percentage)
Source of information about COVID-19	Yes	1921(56.1)
Friends	No	1485(43.3)
	I do not know	20(0.6)
TV/radio	Yes	2490(72.7)
	No	936(27.3)
Social media	Yes	1620(47.3)
	No	1806(52.7)
Others	Yes	18(0.5)
	No	3408(99.5)

Respondents' information related to COVID-19

All in all, 3,390 (98.9%) of the respondents have ever heard about the Corona virus and know that it is a communicable disease. However, more than half, 2046 (59.7%), didn't know the incubation period of the virus. Regarding the symptoms of COVID-19, a large proportion (2516, or 73.4%) of the respondents know that cough is a symptom of COVID-19, followed by high-grade fever (1855, or 54.1%), severe headache (46.7%), and throat pain (1371, or 40%). A majority of 2844 (83% of the respondents) replied that they would seek medical care from health facilities if they suspected themselves to be infected with the Corona virus. Others said that they would stay at home (234; 6.8%) or go to traditional healers (186; 5.4%). A large proportion, 3320 (96.9%), of the respondents believed that coronavirus could be prevented, and 3376 (98.5%) knew the methods of prevention of coronavirus.

Regarding the knowledge of preventing the Corona virus, washing hands with water and soap was mentioned by the highest proportion, 2871 (83.8%), followed by avoiding physical contact, including handshakes, 2578 (75.2%). However, more than half (57.8%) of the respondents' belief that covering the mouth while coughing or sneezing does not prevent transmission Nearly half, 1820 (53.1%), of the respondents replied that old people are at higher risk of developing severe illness if infected with the Corona virus, followed by people with chronic health problems, 996 (29.1%), would develop severe illness (Table 3).

Table 3

Respondents' knowledge about COVID-19, Nekemte, 2020

Variables	Response	Frequency
COVID-19 is a communicable disease	Yes	3390(98.9)
	No	36(1.1)
know the incubation period of COVID-19?	Yes	1380(40.3)
	No	2046(59.7)
know Symptoms of COVID-19? Fever	Yes	1855(54.1)
	No	1571(45.9)
Cough	Yes	2516(73.4)
	No	910(26.6)
Throat pain	Yes	1371(40)
	No	2055(60)
Severe headache	Yes	1600(46.7)
	No	1826(53.3)
Other symptoms	Yes	121(3.5)
	No	3305(96.5)
If you suspect yourself with COVID-19 infection, what do you do?	Go to health center	2844(83.0)
	Stay at home	234(6.8)
	Go to traditional healers	186(5.4)
	Go to church	49(1.4)
	I don't know what to do	113(3.3)
Is Corona virus infection preventable?	Yes	3320(96.9)
	No	64(1.9)
	I don't know	42(1.2)
Do you know how to prevent the transmission of COVID-19?	Yes	3376(98.5)
	No	50(1.5)
Which prevention methods do you know? Staying at home Yes	1080(31.5)	
No		2346 (68.5)
Avoiding physical contact including hand shake	Yes	2578(75.2)
	No	848(24.8)
washing hands with water and soap	Yes	2871(83.8)
	No	555(16.2)
Covering mouth while coughing or sneezing	Yes	1445(42.2)
	No	1981(57.8)
Who will be more affected by the disease?	Children	407(11.9)
	Old age	1820(53.1)
	Those with chronic health problems	996(29.1)
	I don't know	203(5.9)

COVID-19 Prevention practices

The respondents were asked whether they were implementing coronavirus prevention methods in their day-to-day lives. About two-thirds, or 2304 (67.3%), of the respondents stopped shaking their hands. Seventy percent of the study participants were practicing frequent hand washing with water and soap. However, most of them were unable to stay at

home for different reasons. A significant proportion, 3163 (92.3%), were unable to stop using public transportation, and a similar proportion, 3163 (92.3%), could not stop going to the market to get the necessary materials for their daily lives. About eighty percent, or 2722 (79.5%), of the participants were going out for work during data collection. More than a third, 1322 (38.6%), still did not cover their mouth and nose while coughing or sneezing, and a significant number of participants, 2672 (78%), did not use face masks. A good proportion, 2624 (76.6%), did not use hand sanitizer. A significant proportion, 1567 (45.7%), were unable to maintain physical distance on different occasions, and 2926 (85.4%) of the respondents were still involved in social gatherings (Table 4).

Table 4

Corona Virus Prevention practices of study participants, Nekemte, 2020

Characteristics	Response	Number (%)
To prevent corona virus, what do you, currently, doing?		
Stay at home	Yes	904(26.4)
	No	2522(73.6)
Frequently wash my hands with water & soap	Yes	2413(70.4)
	No	1013(29.6)
Avoid handshaking	Yes	2304(67.3)
	No	1122(32.7)
Avoided public transport	Yes	263(7.7)
	No	3163(92.3)
Not going market	Yes	264(7.7)
	No	3162(92.3)
Not going out for work	Yes	704(20.5)
	No	2722(79.5)
Cover my mouth and nose while coughing or sneezing	Yes	2104(61.4)
	No	1322(38.6)
Use face mask	Yes	754(22)
	No	2672(78)
Use sanitizer	Yes	802(23.4)
	No	2624(76.6)
Maintain physical distancing	Yes	1859(54.3)
	No	1567(45.7)
Avoid Social gathering	Yes	500(14.6)
	No	2926(85.4)

According to the respondents, there were different challenges to implementing prevention methods. Almost all employee respondents, 783 (97%), were complaining that they were forced to come to work without taking any preventive measures or precautions. Thirty percent (1027) drink coffee with their neighbours while they stay at home. About one-fifth, 757 (22.1%), play games like

pool, carenbula, tennis, and football with their friends. And 822 (24%) claimed that nobody taught them how to prevent the disease or about the disease (Table 5).

Table 5

Challenges in implementing prevention methods

Characteristics	Response	Number (%)
Have you ever heard about COVID-19?	Yes	3367(98.3)
	No	59(1.7)
My office dictated me to go to work without making preventive measures and precaution (among employed)	Yes	783(97)
	No	24(3)
I have to go to local markets to buy food items	Yes	2747(80.2)
	No	679(198)
I 'm forced to go to work since it affects my daily income	Yes	2399(70)
	No	1027(30)
Since we stay home, we drink coffee with my neighbors	Yes	1118(32.6)
	No	2308(67.4)
I spent my time around home playing games (pool, caranbula, tennis, football) with many of my friends	Yes	757(22.1)
	No	2669(77.9)
Nobody informed/taught me about the disease in my locality	Yes	822(24)
	No	2604(76)

Knowledge, attitude, and practices of the study participants

All household heads were subjected to the question using variables assessing knowledge. All correct answers were labeled as 1 and incorrect answers were given the value of 0 in the analysis model. Then, the level of knowledge was further categorized as poor, moderate, and good. The vast majority 2909(84.9%) of the respondents were in the range of moderate level of knowledge. Those respondents with poor and good level of knowledge status were 251(7.3%) and 266(7.8%), respectively.

The options of attitude were categorized upon analysis as negative and positive attitudes. All respondents were required to reflect their attitude to each of the questions without any skip patterning questions. About sixty percent, 2020(59%), had a positive response towards attitudes and the remaining demonstrated negative attitudes. Regarding their practice towards Covid-19 prevention 1959(57.2) of the respondents had effected prevention practices, and the rest of them did not (Table 6).

Table 6

Respondents' knowledge, attitude and practices towards prevention of Corona Virus on five Likert scale

Knowledge	Poor	251(7.3)
	Moderate	2909(84.9)
	Good	266(7.8)
Attitude	Negative	1406(41.0)
	Positive	2020(59.0)
Practice	Practiced	1959(57.2)
	Not practiced	1467(42.8)

DISCUSSION

The global pandemic due to COVID-19 has become such a threat to human life that it appears to have caused more than one million deaths globally since its onset. The comprehensive knowledge and understanding of the disease is at its earliest stage, despite the relentless efforts of global experts to stop it. Knowing the status of knowledge, attitudes, and practice is the primary step in planning and implementing intervention packages in the vulnerable community to stop the further spread of the disease. Triggered by the above facts, this study is therefore intended to determine the status of knowledge, attitudes, and practices and associated factors of COVID-19 in six urban settlements found in the three Wollega zones of Western Ethiopia. Nearly all, 98.3%, of the respondents had ever heard about the Corona virus. A similar study intended to assess the KAP of the community in India and the Philippines reported that 91.9% and 94% of the study participants were aware of COVID-19, respectively (Zhong et al., 2020; Yousaf et al., 2020; Lau et al., 2020). However, this study shows a relatively higher level of awareness when compared with studies undertaken in Pakistan and the Philippines (Lau et al., 2020; Isah et al., 2020; Hossain et al., 2020). This high level of awareness among the community was obtained because people were attending different sources of information, both international and local, and at the early stage of the pandemic, the government has paid special attention to disseminating information related to the Corona virus through different channels. The other reason might be that the pandemic has reached Ethiopia lately and people were made aware of it before the occurrence of the infection in the country. The most common sources of information revealed by this study were TV and radio channels followed by friends and social media, which are consistent with the studies conducted in Nigeria, Bangladesh, India, and the Philippines (Isah et al., 2020; Hossain et al., 2020).

An overwhelming majority (98.9%, of the respondents knew that the virus was communicable. This finding is better than the result of the study conducted in Pakistan, which reported that only 50% of the study participants knew the disease was communicable (Ferdous et al., 2020). This disparity could be attributed to the difference in the time frame of the commencement of the two studies.

In this study, only 40% of the study participants knew the exact incubation period of the virus. This indicated that there is a broader gap with a study conducted in Nigeria and Bangladesh, which revealed that 92.2% and 91.3% of the respondents answered the exact incubation period of the virus, respectively (Lau et al., 2020; Isah et al., 2020). The participants in both studies have an academically high calibre profile (90% bachelor holders) compared to the current study, which could contribute to the differences observed.

Regarding the knowledge of the symptoms of COVID-19, a large proportion, 2516 (73.4%), know that cough is a symptom of COVID-19, followed by high-grade fever (1855 (54.1%), severe headache (166.7%), and throat pain (1371.4%). This finding is in line with the study done in Bangladesh, which

reported that 51% of the study participants selected sore throat as a symptom, and 94% of them said cough, headache, and throat pain are the symptoms of the virus (Lau et al., 2020). 91% of the participants in the Nigerian study also reported cough, headache, and throat pain as the correct symptoms of the virus (Yousaf et al., 2020). Furthermore, about 89.45% of the population who took part in a study conducted in India was aware of the signs of the disease (Isah et al., 2020). In this study, the respondents were asked to select the possible symptoms of the disease, while other studies provided them as packages or as composite symptoms. This made the comparisons of the results barred (Isah et al., 2020; Ferdous et al., 2020).

Our study found that 83% of the study population reported they would prefer going to a health facility if suspected of getting an infection with the virus, while 6.8% of them reported staying at home, 5.4% went to traditional healers, and the remaining preferred to go to the church. Even though there is variation, the majority of the participants in a study conducted in India, which deployed related questions, reported self-isolation. The participants were asked what measures they would consider correct if they developed symptoms of COVID-19. They reported self-isolation at 66.0%, going to the hospital immediately at 22.4%, and the rest preferred informing authorities (Sohail et al., 2020).

The majority (96 % of our respondents believe that COVID-19 is a preventable disease, and 98.5% of them know how to prevent the disease. This result is in line with a study conducted in India, which revealed that 98.6% of the study subjects knew that the Corona virus could be prevented by hand washing and by using alcohol-based sanitizer. Similarly, all study participants in the same study above said anyone can be spared from the virus by staying at home and keeping a minimum of one metre physically separated apart.

The study participants were asked to identify the vulnerable groups to acquire the virus. Accordingly, 53% of the participants identified the old age group, 29.1% identified chronic disease groups, and 11.9% of them selected children as the risky groups to acquire the virus. The study in Bangladesh reported the above groups in varying proportions when compared to the current study (Pal et al., 2020). They reported being older people (86.1%), individuals with cancer, diabetes, and chronic respiratory diseases (74.6%), migrants from other parts of the world having COVID-19 (44.8%), children (25.3%), and pregnant women (21.2%). This variation might be attributed to the tool differences deployed in the study (Ferdous et al., 2020).

The current study has also assessed the knowledge of the study participants on how to prevent COVID-19. Accordingly, 31.5% of them replied to stay at home, and 75.2% avoided physically contacting The study has also assessed the prevention practices of the individual participants. It is revealed that most of the participants, 73.6%, were unable to stay at home for different reasons. This result is relatively comparable to a study conducted in Cameroon that reported that 20% of their study participants were confined at home. Contrary to this result, the study conducted in Talkha District, Egypt, showed that about 88% of the study participants committed to staying at home and not leaving it unless necessary. The participants in the current study were unable to stay at home due to the nature of their occupation, which was an obligatory condition to gain their daily income. This has contributed to the differences seen in the above figure compared to the Egyptian study (Nkengazong et al., 2020; DSEP & Ph, 2020).

About two-thirds (67.3%) of the respondents stopped hand shaking to prevent

COVID-19. This result is lower than a study conducted in Egypt, in which 87% of the study subjects were careful not to shake hands with others (DSEP & Ph, 2020). Seventy percent of participants committed to frequent hand washing with water and soap. This is similar to a study conducted in Saudi Arabia that showed that about 76% of the study participants had been washing their hands during the surge in the case of COVID-19 (Khaled et al., 2020).

In spite of the closedown, a large proportion, 92.3% of the study participants, reported that they did not stop using public transportation, and a similar proportion, 3163 (92.3%), could not stop going to market places, and close to eighty percent of the participants were still going out for work. More than one-third, 1322 (38.6%), did not cover their mouth and nose while coughing or sneezing, and a significant number of participants, 2672 (78%), and 2624 (76.6%) did not use face masks or hand sanitizer, respectively.

A significant proportion, 1567 (45.7%), did not maintain physical distance on different occasions, and 2926 (85.4%) were involved in social gatherings. These findings are in disagreement with other similar studies from Hong Kong, which also reported that 65% of the study participants had never gone to social events and maintained social distancing, and 72% had practiced frequent hand washing (Wong et al., 2020; Iradukunda et al., 2020). These dissimilarities in the findings could be attributable to the difference in the awareness level of the study population, and the time when we conducted this study coincided with the assassination of the known Oromo singer Hacalu Hundessa, which caused grievances in the community not to obey the government's orders regarding the prevention measures.

The knowledge related to COVID-19 of the study participants was categorised as low, moderate, and high. The majority of the participants were in the category of moderate level of knowledge, which accounts for 84.9% in total. The respondents with poor and high levels of knowledge status are nearly equal, represented as 251 (7.3) and 266 (7.8%), respectively. A study conducted in India revealed that 74% of the participants had average knowledge, which is lower than the current study, 2% had poor knowledge, and the remaining part demonstrated good knowledge about COVID-19, which is slightly higher than this study (Pal et al., 2020).

The knowledge status of this study participant shows variations when compared with other studies. In Cameroon 847 (84.19%), the study participants scored beyond 50% of an overall correct answer. A study conducted in Kigali, Rwanda, which involved 380 individuals, demonstrated that 97% of the participants scored good knowledge, which is beyond 65% of overall knowledge, and the remaining percent scored poor. A study in Hong Kong yielded an overall correct response rate of 53.8% on the knowledge test among a total of 352 participants (Wong et al., 2020; Iradukunda et al., 2020). This variation could be related to socio-demographic differences, like the educational level of the study participants.

Nearly one-third of the participants in this study, 60%, have a positive attitude towards the prevention of the Corona virus. This result is in agreement with the findings from the Bangladesh study, which indicated 62.3% of respondents had positive attitudes towards the prevention of COVID-19. Our finding regarding attitude is lower than a study conducted in the Kashmir and Jammu populations of India, where 73.3% were found to have a positive attitude towards COVID-19

(Yousaf et al., 2020; Ferdous et al., 2020). This might be related to the time variation in the spread of the virus in the study areas.

This study revealed that the majority (57.2%) of the respondents had affected prevention practices. This figure is lower than that of the Indian study, which stated the overall score of positive prevention practices related to COVID-19 was 93.0% (Yousaf et al., 2020). This variation may be due to socio-demographic differences like educational status and occupational attributes, which may affect the extent of adherence to prevention practices.

Conclusions

Nearly all, 98.3%, of the respondents have ever heard about the Corona virus, and there is a higher level of awareness. An overwhelming majority, 98.9%, of the respondents knew that the virus is a communicable disease and is preventable. Large proportions of the study population knew how to prevent the disease. All study participants said anyone can be spared from the virus by staying at home and keeping physical distances apart by a minimum of one meter. However, most of the participants mentioned that they couldn't stay home for different reasons, like marketing to buy food items and to earn their daily income. The most common sources of information on the Corona virus were TV and radio, followed by friends and social media. However, in this study, only 40% of the study participants knew the exact incubation period of the virus. Regarding the symptoms of COVID-19, about three-fourths of the respondents knew that cough is a symptom of COVID-19, followed by fever, severe headache, and throat pain. About eighty percent of the study population would prefer going to health facilities if they suspected themselves of getting infected with the virus, while very few preferred to stay at home and visit traditional healers and churches. More than fifty percent of the respondents identified old age as a risk group for coronavirus infection, while about one-third listed people who have chronic diseases, followed by children.

Although there is a high level of knowledge of the mode of transmission, symptoms, and prevention methods of the Corona virus, most of the respondents did not practice the recommended health measures. Almost all participants were unable to stop using public transportation and going to markets. Close to eighty percent of the participants were still going out for work. More than one-third of participants did not cover their mouth and nose while coughing or sneezing, and a significant number of participants did not use face masks and sanitizers. A significant proportion was unable to maintain physical distance at different social events and social gatherings. The level of education has a significant positive association with implementing prevention methods. And the employed ones were more likely to practice prevention methods as compared to other job categories.

Recommendation

Although there is high awareness of the mode of transmission, symptoms, and prevention methods of the Corona virus, the level of implementation of the recommended health measures among the study population is weak. Especially the issues of the Corona virus were

significantly attached to politics, and thus the community has developed resistance to government directives. Thus, the health sector and other partners should pay special attention to educating and promoting the implementation of the recommended health measures in the community.

1. The government should work towards obtaining and maintaining the trust of the community.
2. The issue of the Corona virus should be free of politics (it shouldn't be politicized).
3. Public transportation facilities should be improved to decrease overcrowding.

Acknowledgements: We would like to acknowledge Wollega University for funding and providing resources for this research. We would also like to thank local administrative bodies for their cooperation and support throughout the study period. Lastly, but not least, we would like to extend our thanks to the study participants for their information and time.

Competing interests: The researchers have no competing interests regarding this study.

Authors' contributions: MD and DW generated the concept and wrote the proposal, participated in data collection, wrote the final result, and managed the finance processes. OK and AA participated in developing the concept and data collection process. ZD and GT participated in developing the concept, data collection, analyses, and writing the draft results.

REFERENCES

Bos, J. M., Hebl, V. B., Oberg, A. L., Sun, Z., Herman, D. S., Teekakirikul, P., ... & Schaff, H. V. (2020, April). Marked Up-Regulation of ACE2 in Hearts of Patients with Obstructive Hypertrophic Cardiomyopathy: Implications for SARS-CoV-2-Mediated COVID-19. In *Mayo Clinic Proceedings*. Elsevier.

WHO (2020a). Coronavirus N. situation report, 22.World Health Organization. https://www. who. int/docs/default-source/coronaviruse/situation-reports/20200211-sitrep-22-ncov. pdf. 2019.

WHO (2020b). WHO announces COVID-19 outbreak a pandemic. *WHO, Geneva, Switzerland*.

Aggarwal, V. (2020). EFFECTIVE WAYS TO MAKE CORONA VIRUS LOCKDOWN: PRODUCTIVE AND POSITIVE. *Purakala with ISSN 0971-2143 is an UGC. CARE Journal*, *31*(4), 1798-1807.

Salman, F. M., Abu-Naser, S. S., Alajrami, E., Abu-Nasser, B. S., & Alashqar, B. A. (2020). Covid-19 detection using artificial intelligence.

Hui, D. S. I Azhar, E, Madani, T.A., Ntoumi, F., Kock, R., Dar O, et al. (February 2020).“The continuing 2019-nCoV epidemic threat of novel coronaviruses to global health—The latest 2019 novel coronavirus outbreak in Wuhan, China”. *Int J Infect Dis*, *91*, 264-66.

Velavan, T. P., & Meyer, C. G. (2020). The COVID-19 epidemic. *Tropical medicine & international health*, *25*(3), 278.

Nkwoemeka, N. E., Okwelogu, I. S., & Chiedozie, A. P. (2020). A SCOPING REVIEW ON Epidemiology, Etiology, Transmission, Clinical Presentation, Treatment and Management of Coronavirus Disease (COVID-19). *European Journal of Biology and Medical Science Research*, *8*(2), 45-54.

Centers for Disease Control and Prevention (CDC). "Interim Guidelines for Collecting, Handling, and Testing Clinical Specimens from Persons for Coronavirus

Disease 2019 (COVID-19)". 11 February 2020. Archived from the original on 4 March 2020. Retrieved 26 March2020.

Salehi, S., Abedi, A., Balakrishnan, S., & Gholamrezanezhad, A. (2020). Coronavirus disease 2019 (COVID-19): a systematic review of imaging findings in 919 patients. *American Journal of Roentgenology*, 1-7.

De Simone, B., Chouillard, E., Di Saverio, S., Pagani, L., Sartelli, M., Biffl, W. L. & Campanile, F. C. (2020). Emergency surgery during the COVID-19 pandemic: what you need to know for practice. *The Annals of The Royal College of Surgeons of England*, 1-10.

Public Health England. (2020). *Guidance on social distancing for everyone in the UK* on 1 May 2020

Feng, S., Shen, C., Xia, N., Song, W., Fan, M., & Cowling, B. J. (2020). Rational use of face masks in the COVID-19 pandemic. Lancet Respir Med 2020 May;8(5):434-436. doi: 10.1016/S2213-2600(20)30134-X. Epub 2020 Mar 20.

Tait, R. (2020). Czechs get to work making masks after government decree. *The Guardian, Available at: https://www. The guardian. com/wo rld/2020/mar/30/czechs-get-towork-making-masks-aftergovernment-decree-coronavirus*.

WHO (2020c). *First Case of Covid-19 Confirmed In Ethiopia*. www.afro.who.int

WHO (2020d). *Data as reported by national authorities by 10 A.M*. CET 13 March 2020

MoSHE-Ministry of Science and Higher Education (2020). *Ethiopian National COVID-19 Research Priorities and Alignment, Multi-Disciplinary Taskforce Report, May, 2020.* Addis Ababa, Ethiopia.

Zhong, B., Luo, W., Li, H., Zhang, Q., Liu, X., Li, W., et al. (2020). *Knowledge, attitudes, and practices towards COVID-19 among Chinese residents during the rapid rise period of the COVID-19 outbreak : a quick online cross-sectional survey, 16.*

Yousaf, M.A., Noreen, M., Saleem, T., & Yousaf, I. (2020). A Cross-Sectional Survey of Knowledge, Attitude, and Practices (KAP) Toward Pandemic COVID-19 among the General Population of Jammu and Kashmir, India. *Social Work in Public Health, 35*(7), 569-578

Lau, L.L., Hung, N., Joy, D., Ferma, J., Dodd, W., Ave, J.V. (2020). *Knowledge, attitudes and practices of COVID-19 among income-poor households in the Philippines : A cross-sectional study, 10* (1).

Isah, M.B., Abdulsalam, M., Bello, A., Ibrahim, M.I., and Coronavirus Disease 2019 (COVID-19): *Knowledge, attitudes, practices (KAP) and misconceptions in the general population of Katsina State*, 1–27.

Hossain MA, Jahid IK, Id KMAH. (2020). *Knowledge, attitudes, and fear of COVID-19 during the Rapid Rise Period in Bangladesh*, 1–13. Available from: http://dx.doi.org/ 10.1371/journal.pone.0239646

Ferdous, M.Z, Id SI, Sikder, T, Syed, A. (2020). COVID-19 outbreak in Bangladesh. *An online- based cross-sectional study, 1–17.* Available from: http://dx.doi.org/10.1371 /journal. pone. 0239254

Sohail, M., Aisha, A., Ubaid, K., Rahman, U., Sadia, Q., Arif, M., et al. (2020). Community - Based Assessment of Knowledge, Attitude, Practices and Risk Factors Regarding COVID - 19 Among Pakistanis Residents During a Recent Outbreak : A Cross - Sectional Survey. Journal of Community Health (0123456789). https://doi.org/10. 1007/s10900-020-00875-z

Pal R, Yadav U, Grover S, Saboo B, Verma A. (2020). Knowledge, attitudes and practices towards COVID-19 among young adults with

Type 1 Diabetes Mellitus amid the nationwide lockdown in India : A cross-sectional survey. *Diabetes research and clinical practice, 166*, 108344.

Nkengazong L, Ambe, L.A., Thierry, J., Id. E., Medou, F., et al. (2020). *Knowledge, attitudes, practices of / towards COVID 19 preventive measures and symptoms : A cross-sectional study during the exponential rise of the outbreak in Cameroon*, 1–15.

DSEP, Ibrahim S, Ph A. Knowledge, attitude and practices (KAP) of rural population about COVID-19 : a community-based study in Talkha District, Egypt. 2020; (September).

Khaled A, Siddiqua A, Makki S. The Knowledge and Attitude of the Community from the Aseer Region, Saudi Arabia, Toward COVID-19 and Their Precautionary Measures against the Disease. *Risk Manag Health Policy, 13,* 1825-1834 https://doi.org/10.2147/RMHP.S271899

Wong CL, Chen J, Chow KM, Law BMH, Chan DNS, So WKW, Leung AWY, Chan CWH. (2020). Knowledge, Attitudes and Practices towards COVID-19 amongst Ethnic Minorities in Hong Kong. *Int J Environ Res Public Health, 17*(21), 7878. doi: 10.3390/ijerph17217878. PMID: 33121143; PMCID: PMC7662243.

Iradukunda, Patrick Gad et al. "Knowledge, Attitude, and Practice towards COVID-19 among People Living with HIV/AIDS in Kigali, Rwanda." *Journal of community health*, 1–6. 26 Oct. 2020, doi: 10.1007/s10900-020-00938-1