

Knowledge, Attitude and Preventive Practice (KAP) towards COVID-19 Pandemic among the Residents from Western Oromia, Ethiopia: Cross-Sectional Survey Study

Agama Daba^{1*}, Tamiru Yazew¹, Gesessew Kibr¹ and Bacha Gebissa²

¹Department of Biochemistry, Shambu Campus, Wollega University, Shambu, Ethiopia

²Department of Medicine, Shambu Campus, Wollega University, Shambu, Ethiopia

Corresponding Author*

Agama Daba
Department of Biochemistry
Wollega University,
Shambu, Ethiopia
E-mail: agaamaadhaaba@gmail.com

Copyright: © 2022 Daba A, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Received date: 14-Mar-2022, Manuscript No. JBTW-21-57181; **Editor assigned:** 17-Mar-2022, PreQC No. JBTW-21-57181(PQ); **Reviewed:** 31-Mar-2022, QC No JBTW-21-57181; **Revised:** 05-Apr-2022, Manuscript No. JBTW-21-57181(R); **Published:** 15-Apr-2022, DOI:10.35248/2322-3308-11.2.004

Abstract

Objective: Coronavirus Disease (COVID-19) is an infectious disease caused by a newly discovered coronavirus. This study was conducted to determine the level of KAP towards COVID-19 and identify associated factors among households in the Horro Guduru Wollega zone.

Methods: A community-based cross-sectional study was employed to assess the KAP towards COVID-19 among the communities in the Horro Guduru Wollega zone. Data from the respondents were collected using interview techniques. Data collected contains knowledge, Attitude, and preventive practice addressing questions and socio-demographic characteristics. Descriptive statistics were used to set the KAP level and a logistic regression model was applied to test the association of KAP with various independent variables.

Results: Of 634 total participants, 118(18.6%), 246(38.8%), and 463(73%) were identified as not knowledgeable, having a poor attitude, and poor practicing towards COVID-19 pandemic, respectively. In this study, place of residence, family income, and media access were identified as factors affecting KAP towards COVID-19. Both education and occupational status were affecting the knowledge and attitude level of participants towards the pandemic. Furthermore, this study identified that the knowledge level was affecting the attitude level, while attitude level was affecting the preventive practice towards the COVID-19 pandemic in the study area.

Conclusion: Current study concludes that there was a gap in KAP towards COVID-19 among the participants in the study area. Thus, the concerned body should act on providing organized health education to the community, especially high attention must be given to the rural and low economic status communities through community-based behavioral change communication to assist and improve the level of knowledge, attitude, and preventive practice towards COVID-19 in the study area.

Keywords: Knowledge • Attitude • Practice • COVID-19 pandemic • Associated factors

Introduction

The novel-coronavirus disease is a very fast-spreading respiratory disease and currently a global health threat and public health crisis of international concern [1]. The Severe Acute Respiratory Syndrome outbreak that was allied to the coronavirus (SARS-COV) was first justified in 2003. Sixteen years later, a closely similar outbreak, which first received the name novel-SARS-COV2, was detected. The outbreak was first reported in late December 2019, after

clusters of pneumonia cases of unknown etiology were found to be associated with epidemiologically linked exposure to the seafood market and untraced exposures in the city of Wuhan of China in Hubei Province. Then, the spread of the virus has shown exponential growth and spread to all continents and obtained a unique name by COVID-19 from the World Health Organization. The COVID-19 symptoms can be varying from mild or no symptoms to severe illness and its main characteristics are; fever, dry cough, dyspnea, headache, sore throat, and rhino rhea, and sometimes hemoptysis. The most important way of transmissions are close contact with a person who has COVID-19, respiratory droplets of an infected person during coughs, sneezes, or talks and touching a surface or object that has contaminated with the virus and then by touching the mouth, nose, or eyes before washing or cleaning of hands. Despite all efforts to control the pandemic, the virus continues to spread, and globally, new COVID-19 cases rose for the eighth consecutive week, with over 5.2 million new cases reported in the last week. The number of new deaths increased for the fifth consecutive week, increasing by 8% compared to last week, with over 83000 new deaths reported. Also, it was reported by European Centre for Disease Prevention and Control that from Africa 117,934 deaths; the five countries reporting the most deaths are South Africa (53,736), Egypt (12,738), Tunisia (9,825), Morocco (8,945), and Ethiopia (3,370). Appropriate knowledge, attitude, and practice about COVID-19 preventive actions play an important role to determine the public readiness to assent to behavioral change measures from health experts and have been recommended to control the spread of this pandemic. Though, the attitude and preventive practice level of the people is not well understood. Thus, this study was intended to identify the attitude and preventive practice towards COVID-19 and associated factors among communities in western Oromia, Ethiopia [2].

Materials and Methodology

Study area

The study was conducted in Horro Guduru Wollega zone, western Oromia, Ethiopia. The zone is located at Latitude 9010' N and 9050' N and Longitude 36000' E and 36050' E. It has a total land area of 8,097 km². The capital town of the zone is Shambu and found 314 km west of Addis Ababa. According to this zone had a total population of 641,575 of which 50.09% were male and 49.91% were female. Also, the same report shows that about 89% of the population lives in rural areas and driving their livelihoods from agriculture.

Study design and period

A community-based cross-sectional study design was employed between February and April 2021.

Study population

All randomly selected participants in the selected kebeles of Abay Chomman and Jima Geneti districts, Horro Guduru Wollega zone, western Oromia, Ethiopia were constituted as the study population. Peoples those were the residents of the study area at least for 6 months and volunteer for the interview were included in the study, while those who were not residents of the area and not available at their home during the survey contact were excluded from the study.

Variables of the study

In this study, knowledge, attitude and preventive practices were dependent variables while socio-demographic and economic characteristics were independent variables.

Sample size determination

The sample size was determined using the formula for a single population proportion by considering the following assumptions:

Where: n=required sample sizes, Z_{α/2}=critical value for normal distribution at 95% confidence level which equals to 1.96 (z value at alpha=0.05). The

expected prevalence (P=0.5) was used and d=an absolute precision (margin of error 5%). The formula is yielded n=384. Therefore, the total sample size required for this study is 634 participants, considering 10% of Non-Response Rate (NRR) and Design Effect (DE) of 1.5.

Sampling procedures

Horro Guduru Wollega Zone was purposively selected as a study site since there was no research data on knowledge, attitude, and preventive practice towards COVID-19 and its associated factors. Therefore, multi-stages sampling methods were used to draw samples for the study. Firstly, from the total 11 districts found in the Horro Guduru Wollega Zone, Abay Chomman and Jima Geneti districts were randomly selected. Next from each district, two kebeles were selected one from each urban and rural. Then, the number of participants was determined for each kebele using Population Proportion to Size (PPS). Finally, from each kebele, all participants required for the study (634) were selected randomly (Figure 1).

Data collection methods

The data about socio-demographic and economic and knowledge, attitude, and preventive practice level addressing in the study area were collected using a structured questionnaire adapted from different relevant studies. The questionnaire was first developed in English and then translated into Afan Oromo, the language which was a survey language. It was translated back to English by different language experts to check for consistency. After training was given for data collectors consecutively for five days, the data were collected by 12 enumerators, four supervisors, and two researchers. At the end of each day, the completeness of questionnaires was checked by the principal investigator. The data about socio-demographic and economic factors like age, sex, family size, marital status, educational status, occupational status, monthly income, and other relevant information including sources of information were collected from participants.

Statistical analysis

Data were analysed using SPSS statistical software version 25.0. Descriptive statistics were used and presented using tables and percentages. The logistic regression model was used to identify factors associated with the knowledge, attitude, and preventive practices level of the respondents. P-values less than 0.05 were considered statistically significant. The degree of association between dependent and independent variables was reported using Adjusted Odds Ratio (AOR) with 95% CI.

Results

Socio-demographic characteristics of the study participants

In this study, the mean age was 41.63(± 8.97) years and the majority of the 425(67%) were middle-aged adults with 36-55 years. Of 634 respondents, 55(24.4%) and 248(39.1%) were female and from rural respectively. In this study only 39(6.2%) were illiterate and 273(43.1%) were with higher education levels. In the case of occupational status, 15(2.4%) of participants were housewives only and 295(46.5%) were government or private employed. Of all 107(16.9%) respondents were from having ≤ 500 Ethiopian birrs monthly family income. Due to the COVID-19 pandemic, there was a family size increment among 354(55.8%) of participants and 103(16.2%) of respondents were having radio/TV in their home which was their source of information during this pandemic (Table 1).

Knowledge of participants regarding COVID-19

This study revealed that all of the study participants were heard about COVID-19 and 587(92.6%) responded as COVID-19 is a virus infection. Of 634 participants 30(4.7%) responded that the virus inter in the body through the nose only. Also, 41(6.5%) were answered as "a person who looks healthy and has no cough or fever can't spread COVID-19". Considering 75% of the total score 7.5, among the study participants, 118(18.6%) of them were differentiated as not knowledgeable (Table 2).

The attitude of participants towards COVID-19

Table 3 below shows the attitudes of participants towards COVID-19 and this study revealed that 151(23.8%) of participants were not thinking as controlling of COVID-19 is possible. The majority of the respondents were agreed that using face masks (80.3%) and hand washing (95.4%) are effective mechanisms to prevent COVID-19 transmission. Of 634 study respondents, 68.5% were agreed that eating pepper and garlic stands against COVID-19 (Table 3).

Practice participants towards COVID-19

Practice level of participants towards COVID-19 and as it is stated only 41(6.5%) of participants were staying their home and 194(30.6%) were maintaining safe physical distances when going outside of their home. Also, only 214(33.75%) of the respondents refrained from handshaking during this pandemic. In this study majority of participants 463(73%) were with poor practicing towards COVID-19 pandemics.

Factors associated with participant's knowledge level towards

In the case of Bi-variable analysis age, sex, place of residence, education level, occupational status, income level, family size increment due to COVID-19, radio/TV shows significant associations with respondent's knowledge regarding COVID-19. But in multi-variable logistic regression analysis, some of them become insignificant. In multivariable logistic regression analysis only sex, place of residence, education level, occupational status, income level, and radio/TV shows a significant association. This study revealed that females were 72.4% (AOR=0.276, CI=(0.179, 0.427) less likely to have knowledge regarding COVID-19 than males. Also, respondents from rural areas were 90.7% (AOR=0.093, CI=(0.028, 0.309) less likely to know COVID-19 compared to those from urban. Similarly, respondents, those do not have formal education were 87.5% (AOR=0.125, CI=(0.038, 0.412) less likely to have knowledge towards the pandemic than those with higher education level. Regarding the occupational status of respondents, those housewives only were 94.9% (AOR=0.051, CI=(0.005, 0.489) less likely

Table 1. Socio-demographic Characteristics of Study Participants (n=634), Horro Guduru Wollega, Oromia, Ethiopia, 2021.

Variables	Level	No.	%
Age (in a year)	≤ 35	160	25.2
	36-55	425	67
	>55	49	7.7
Sex	wFemale	155	24.4
	Male	479	75.6
Place of residence	Rural	248	39.1
	Urban	386	60.9
Current family size	≤ 5	449	70.8
	>5	185	29.2
Religion	Orthodox	352	55.52
	Protestant	212	33.44
	Waaqeffataa	42	6.62
	Muslim	28	4.42
Respondent education level	No formal education	39	6.2
	Primary education	283	44.6
	Secondary and preparatory	39	6.2
	College and above	273	43.1
Marital status	Married	584	92.1
	Divorced	11	1.7
	Single	30	4.7
	Widowed	9	1.4
Occupational status	Housewife only	15	2.4
	Farmer	294	46.4
	Merchants	30	4.7
Family income (Birr)	Gov't and private employed	295	46.5
	≤ 500ETB	107	16.9
	>500ETB	527	83.1
Family size increased due to Covid-19	Yes	354	55.8
	No	280	44.2
Have Radio/Tv	No	103	16.2
	Yes	531	83.8

Table 2. Frequency distribution of Participant's Response of Knowledge towards COVID-19 (n=634) Horro Guduru Wollega, Ethiopia, 2021.

Questions	n	%
Have you heard information about the COVID-19?	634	100
Is the COVID-19 a virus infection?	587	92.6
Is the COVID-19 transmitted by close contact with the infected person?	616	97.2
Fever, fatigue, dry cough, and shortness of breath are symptoms of COVID-19?	558	88
If one gets cold, cough or fever he/she is COVID-19 infected	172	27.1
The best way to prevent COVID-19 is to avoid the crowd and staying at home	599	94.5
Children and young have no risk of death due to COVID-19	24	3.8
If a crowd happens due to religious purpose there is no chance of COVID-19 spreading	6	0.9
COVID-19 can only go inside the body through the nose but not through the eyes and mouth	30	4.7
A person who looks healthy and has no cough or fever can't spread COVID-19	41	6.5

Table 3. Frequency distribution of Participant's Response of Attitudes towards Covid-19, (n=634) Horro Guduru Wollega, Ethiopia, 2021.

Questions	n	%
Do you think the COVID-19 situation will stay under control?	483	76.2
Do you think the black race is protective of COVID-19 disease?	106	16.7
Do you think wearing a fitting face mask is effective in preventing COVID-19?	509	80.3
Do you think using a hand wash can prevent you from getting COVID-19?	605	95.4
Do you think eating pepper and garlic can prevent you from getting COVID-19?	434	68.5
Poor attitude	246	38.8
Good attitude	388	61.2

to know those government or non-government employed. In the case of income level participants, those having an average monthly family income of \leq 500 ETB were 44.5% (AOR=0.555, CI=(0.334, 0.923) less likely to have knowledge of covid-19 than those having \geq 500 ETB average monthly income. Additionally, the result showed that respondents those not having radio/TV in their homes were 52.7% (AOR=0.473, CI=0.284, 0.789) less likely to know related to COVID-19 pandemic compared to those having radio/TV in their home that place of residence, family income, educational and occupational status, access to media, and knowledge level of participants showed significant associations with the attitude level of respondents. In this study, the result from multi-variable logistic regression analysis revealed that respondents from rural were 96.2% (AOR=0.038, CI=(0.018, 0.081) less likely to have positive attitudes compared with those from urban areas. Also, subjects not having formal education were 74.3% (AOR=0.257, CI=(0.114, 0.582) less likely to have a positive attitude towards COVID-19 than those with higher education levels. Additionally, the result shows that farmers were 83% (AOR=0.170, CI=(0.112, 0.260) less likely to have a positive attitude compared with employed participants. Again subjects from those having \leq 500 ETB average monthly income were 83.8% (AOR=0.162, CI=(0.081, 0.323) less likely to have a positive attitude compared with more income earning families. Furthermore, participants those not having information sources like TV or radio were 81.2% (AOR=0.188, CI=(0.093, 0.381) less likely to have a positive attitude than those with sources of information in their home and those having insufficient knowledge were 43.7% (AOR=0.563, CI=(0.330, 0.962) less likely to have positive attitude compared with those knowledgeable.

Factors associated with participant's practice level towards COVID-19

The result of this study shows that being female increases the practice towards COVID-19 about two times (AOR=1.14, CI=(1.041, 2.503) compared with males. Respondents living in rural were 48.6% (AOR=0.514, CI=(0.310, 0.854) less likely to practice towards COVID-19 compared with those urban residents. Also, subjects with \leq 500 ETB monthly income were 78.8% (AOR=0.212, CI=(0.093, 0.484) less likely to have good practice toward the pandemic compared to those having more income. Additionally, participants who do not have TV/radio in their home were 89.3% (AOR=0.107, CI=(0.046, 0.248) less likely to practice against COVID-19 compared to those having sources of information in their home. Furthermore, the result shows that participants with a poor attitude towards COVID-19 were 49.5% (AOR=0.505, CI=(0.310, 0.824) less likely to have good practice compared to those having a positive attitude towards the pandemic.

Discussion

The COVID-19 disease remains a public health crisis of international concern. This study revealed that 118(18.6%), 246(38.8%), and 463(73%) of the study

participants were having poor knowledge, poor attitude, and preventive practice towards COVID-19 respectively. This finding was different and lower compared with the result from the different study including the study conducted in Ethiopia which shows that 61% and 84% of the participants were practicing social distance and frequent hand washing, respectively. This difference may be due to the difference in nature of the study since the study is conducted online the study participants were expected to be only literate and having internet access. Iran (90% and 89%), India (73.3% and 93.0%) of the respondents of the study was having good attitudes and practices respectively. This difference may be due to information and availability of health initiation facilities in Iran and India compared to Ethiopia. In this study, females were 72.4% less likely to have knowledge regarding COVID-19 than males and the result is in line with a study done in Bangladesh, Iran, Sudan, and Ethiopia. Likewise, respondents from rural areas were 90.7% less likely to know compared to those from urban and this result confirmed with the study conducted in China, Ethiopia which show that people living in rural makes more likely to have inadequate knowledge as compared with urban dwellers. This may be due to a lack of health information in rural areas compared with urban areas. Similarly, respondents, those did not have formal education were 87.5% less likely to have knowledge towards the pandemic than those with higher education level. This result is consistent with different studies done in Ethiopia, China, and India. This may be because of improvement in capturing information from different readable sources by education. Regarding the occupational status of respondents, those housewives only were 94.9% less likely to know those government or non-government employed. This may be due to less chance to contact and share information than males and males may participate in different associations in which there is information dissemination is available in public. In the case of income level participants, those with lower monthly income were 44.5% less likely to have good knowledge of the pandemic. This is supported by other studies in Ethiopia, Malaysia, and the United States which reported that participants with low income showed poor knowledge of COVID-19. Additionally, the result showed that respondents those not having a radio/TV in their home were 52.7% less likely to know related to the COVID-19 pandemic compared to those having a radio/TV in their home. This result is supported by the study conducted in Iran [3]. This may be due to the loss of information transferred to the communities through mini and mass media. This study revealed that respondents from rural were 96.2% less likely to have a positive attitude compared with those from urban areas. This result is in line with the study conducted in Ethiopia and China. This may be due to a lack of health and others information in the rural compared to urban. Not only has this but may it also due to the high illiteracy rate in rural areas of Ethiopia. Also, subjects not having formal education were 74.3% less likely to have a positive attitude towards COVID-19 than those with higher education levels. This result agreed with the study conducted in Ethiopia, India, and Malaysia. This may be because the ability to collect and understand different information can be affected by education.

Again subjects from those having lower monthly income were less likely to have a positive attitude compared with more income earning families. This result was in line with the study conducted in Bangladesh and India. This may be due to the ability to buy different information sources like TV, radio and others can be determined by the purchasing power of the community or individuals. Also, this study surprisingly identified that the attitude of the respondent was determined by the availability of different information sources in their home like TV and Radio indicating a positive relationship with the attitude level of participants. Additionally, this study confirmed that the knowledge level of participants affecting their attitude level showing that being knowledgeable towards the pandemic makes helps to have a positive attitude towards COVID-19 [4]. This may be due to that having knowledge will improve the attitude level. In the case of preventive practice, the result of this study shows that lack of sources of information (TV/Radio) and being rural residency reduced the preventive practice among the respondents. This indicates that the absence of information reduce the practice of participants where rural residents were far apart from different sources of information. Additionally, this study found that the knowledge level of participants was not statistically significant and the knowledge level of participants was good among the majority of the respondents, while their preventive practice was very low. This infers that having adequate knowledge will not always lead to the implementation of a new practice by a target group. This result was supported by a study conducted in Ethiopia [5-8].

Conclusion

This study found that there is a gap of KAP towards COVID-19 in the study area. Sex, place of residence, income, availability of sources of information (TV/Radio), and attitude level were found to be a significant factors that can affect the preventive practice towards the pandemic. Especially, the knowledge among the participants was not converted to preventive practice in the study area. Thus, the concerned body should act on providing organized health education to the community, especially high attention must be given to the rural and low economic status communities through community-based behavioral change communication to assist and improve the level of KAP towards COVID-19 in the study area. Furthermore, this study suggests that Government should make legal enforcements to enable the preventive practices towards COVID-19 in the study area.

Ethical Consideration

This study was approved by the Wollega University research ethics committee (Ref–WU: 166,676–Re-26). The purpose of this research was explained to the participants and verbal consent was obtained from each study participant. Participants were also informed that participation was voluntary and that they can withdraw at any time if they are not comfortable. Names or personal

identifiers were not included in the questionnaires to ensure participants' confidentiality.

Data Availability

The data used and analyzed in this study are available at a reasonable request from the corresponding author. All related data are in the manuscript.

Conflict of Interest

The authors declare that they do not have any competing interests regarding writing and publishing the current work.

Funding

The study was funded by Wollega University Research and Innovation Technology.

Acknowledgment

The authors are grateful to thank Wollega University for financial support, data collectors, and study participants.

References

1. Yazew, B.G., et al. "Knowledge, attitude and practice towards covid-19 in Ethiopia: A systematic review". *Patient Prefer Adherence* 15(2020):337. [
2. Wang, C., et al. "A novel coronavirus outbreak of global health concern". *Lancet* 395(2020):470-473.
3. Hawryluck, L., et al. "SARS control and psychological effects of quarantine, Toronto, Canada". *Emerg Infect Dis* 10(2004): 1206-1212.
4. Kebede, Y., et al. "Knowledge, perceptions and preventive practices towards COVID-19 early in the outbreak among Jimma university medical center visitors, Southwest Ethiopia". *eCollection* 15(2020):e0233744.
5. Nishiura, H., et al. "The Extent of Transmission of Novel Coronavirus in Wuhan, China". *J Clin Med* 9(2020): 330
6. Stadler, L.K., et al. "Structure-function studies of an engineered scaffold protein derived from Stefin A II: Development and applications of the SQT variant". *Protein Engineering Design Selection* 24.9(2019):751-763.
7. Tiede, C., et al. "Affimer proteins are versatile and renewable affinity reagents." *eLife* (2017).
8. Klont, F., et al. "Affimers as an alternative to antibodies in an affinity LCMS assay for quantification of the soluble Receptor of Advanced Glycation End-products (sRAGE) in human serum." *J Proteome Res* 17.8(2020):2892-2899.