

Knowledge and Attitude Towards COVID-19 in Ethiopia

Insight

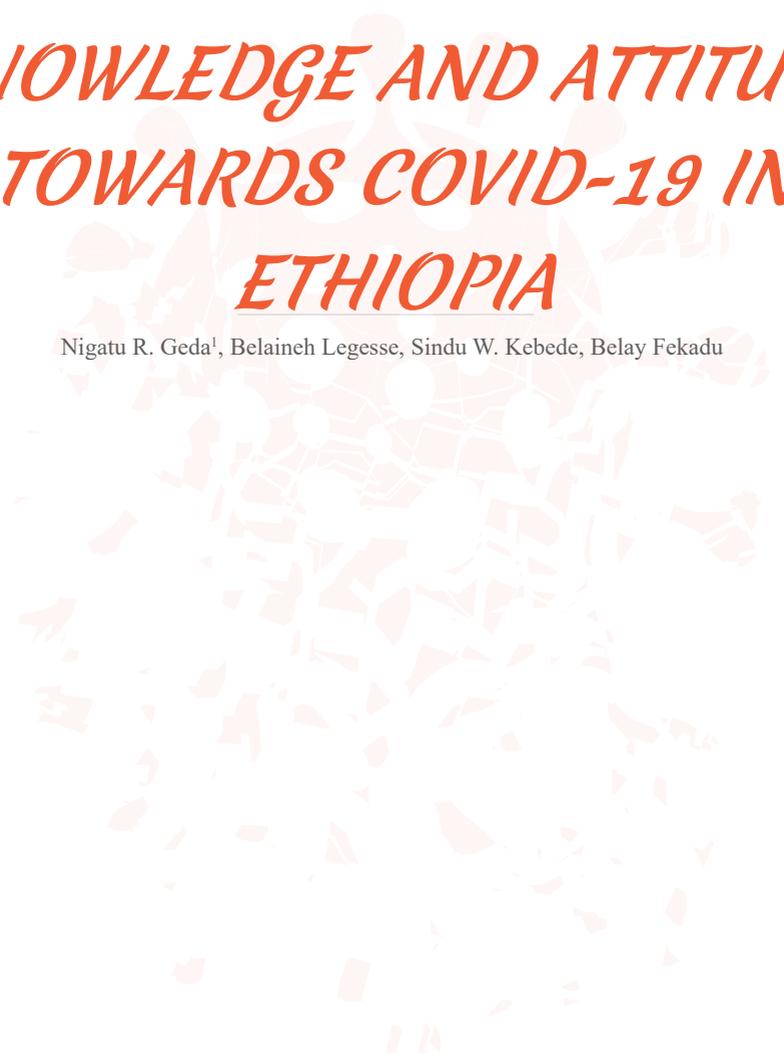
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KNOWLEDGE AND ATTITUDE TOWARDS COVID-19 IN ETHIOPIA

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1. BACKGROUND

Infectious disease is still a major threat of human survival, taking the lives of millions of people and leaving others with serious disabilities and deformities every year (Klepac et al., 2013). The novel coronavirus is a newly emerged pandemic since late 2019 that continues to spread rapidly throughout the globe (Bao-Liang Zhong et al., 2020). The outbreak has spread to about 207 countries in less than five months. As of today (May 8, 2020), more than 4 million cases and 278,452 deaths of people have been reported worldwide (GHP, 2020). It has put a halt to the already staggering economies of most African countries, affected service delivery, transportation, tourism and movement of people and much more. There are also increasing number of reports of public stigmatization against people from areas affected by the pandemic (WHO, 2020).

Ethiopia is not immune from this widely spreading and deadly disease. Ethiopian Public Health Institute (EPHI) conducted over 32,000 laboratory tests during the last two months. Accordingly, the Federal Ministry of Health's (FMOH) most recent report (as of May 9, 2020) indicates that there were 210 confirmed cases in Ethiopia, with more than 95 cases recovered from the virus (FMOH, 2020). Considering the transmission nature of COVID-19, the FMOH is urging the public to strictly follow preventive practices and comply

with governmental decisions. There are serious concerns that further spread of the virus could have devastating effects in big cities, like Addis Ababa, where significant proportion of the population is living in slums and informal settlements with inadequate access to services (OCHA Ethiopia, 2020).

To reduce the impacts of the pandemic, the Ethiopian government took several preventive measures, including shutting down schools, suspending sporting events and public gatherings, suspending flights to several countries affected by the Coronavirus, and introduced a mandatory self-quarantine for 14 days for those entering the country. The House of People declaration of a five-month long state of emergency is another critical response to the growing number of Coronavirus cases. The battle against the pandemic has continued, and the final success seems to depend on people's adherence to these control measures. This is indeed largely affected by people's knowledge and attitudes towards COVID-19 (Bao-Liang Zhong et al, 2020; Ajilore et al, 2017; Tachfouti et al, 2012).

Despite these efforts, large proportion of people are not taking preventive measures either due to poor knowledge or unfavorable attitudes and risk perceptions of the deadly disease. It is generally assumed that people who know more about the

phenomenon, in terms of its origins, occurrence and frequency of the disease and economic and health-related consequences, will have more concerned attitudes towards it, compared to people with a lower level of awareness. It is also, by and large, expected that people with greater knowledge and more concerned attitudes about the impacts to consequently engage more in effective protective behaviors (OCHA Ethiopia, 2020; Bao et al., 2020).

Given the outbreak is a very recent phenomena to Ethiopia, there are no comprehensive studies conducted at national level showing the overall picture of the public knowledge and attitudes. Frontieri took the first initiative in conducting this survey primarily to inform prevention, control and mitigation measures during the pandemic, and yield critical information to guide response and recovery efforts, health education, and social mobilization to prevent stigmatization of survivors and to foster safer case management.

II. METHODS

This cross-sectional survey was conducted in two months immediately after the first COVID-19 case was reported in Ethiopia (March 13, 2020). The study covered the nine regional states of Ethiopia (Afar, Amhara, Benishangul-Gumuz, Gambella, Harari, Oromia, SNNP, Somali, and Tigray) and two city administrations (Addis Ababa and Dire Dawa). Because it was not feasible to do in-person interview during this especial period, Frontieri decided to collect

the data through a rapid phone-based survey of individuals aged 18 and above. A sample size of 1050 respondents was estimated for the national eligible population based on 3% margin of error (at 95% confidence level). Selection of the respondents was made using stratified random sampling technique where the regional states/city administrations constitute our strata. The survey was conducted between April 9-25, 2020.

The data collection has focused on wide range of issues pertaining to COVID-19. The preparation of the survey questions followed best practices for the design of assessments for use among persons with lower literacy level. The questionnaire had two (2) questions for awareness, five (5) questions regarding knowledge and six (6) questions dealing with attitude.

A total of 16 well trained data collectors participated in the phone-based data collection. Each survey took 20-25 minutes and was conducted by phone with Frontieri research assistants. Verbal consent was obtained from all participants before administering the questionnaire. Awareness of COVID-19 was assessed by asking whether participants had heard of the novel Coronavirus, and if so, what the main sources of information were. Demonstrated knowledge of COVID-19 was assessed through close-ended questions asking participants to select the main transmission routes and symptoms. We then constructed a knowledge score based on the dummy responses on knowledge of key symptoms and means of transmission. Attitude questions had five choices where 'agree' and 'strongly agree' were considered as the most favorable/positive attitudes.

Descriptive statistics (means with CI and percentage frequencies) were calculated for most background characteristics and survey responses.

III. RESULT AND DISCUSSION

A total of 1037 participants who were drawn from nine regions and two city administrations of Ethiopia completed the survey questionnaire. There were 13 non respondents. Most (63%) of the respondents resided in urban areas. Large majority (66.8%) of the respondents were males. About 75% of them were married, 19% single, and the remaining small proportions represent separated, widowed and divorced respondents. It is worthy to note that more than two-thirds of the total respondents were between the ages of 25-50, and the youth population constituted 12.4% of the total sample. Those in the old age group (64+) accounted for only 4% of the total respondents. The average age was 33.0 years (standard deviation [SD]: 10.7, range: 16-87). Two-thirds of the study participants reported to live in medium-sized households (4-7 members) and 11% in large households (7+). Overall, most of the participants were Orthodox Christians (55.2%), followed by Muslims (29.4%) and Protestant Christians (14.4%). Finally, in terms of literacy level, about 87% had at least primary level education.

The survey indicates that all of the sample respondents had heard about the COVID-19. In terms of the level of knowledge about the Coronavirus, over 95% correctly recognized physical contact with infected person as a means of transmission (see Table III.1). Droplets from infected person through sneezing and coughing was recognized by 80% of the study participants. Interestingly, a relatively lower proportion of participants did correctly recognize contact with infected materials as a means of transmission. Over 80% of the study participants knew that someone who is infected with the virus can recover (see Table III.1 for details).

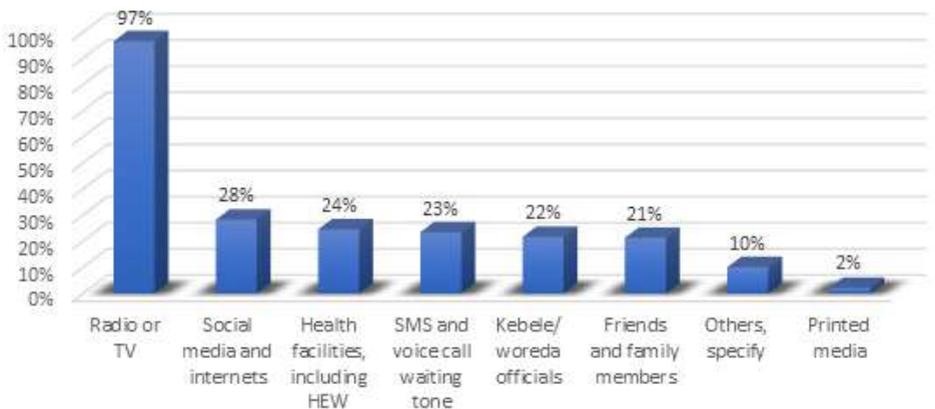
Further, as indicated in Table III.1, rural residents, compared to those living in urban areas, were found to have much lower level of correct knowledge of the symptoms and means of transmission. As shown below in Figure III.1, most (97%) of the respondents get information about the virus from radio or TV.

Table III.1: Percentage distribution of respondents by knowledge about Coronavirus, n=1037

| Response | Favorable response (Yes) Urban+Rural | Favorable response (Urban) | Favorable response (Rural) |
|---|--------------------------------------|----------------------------|----------------------------|
| Knowledge about the main route of transmission | N (%) | N (%) | N (%) |
| Physical contact with infected person | 990 (95.5) | 629(63.5) | 361(36.5) |
| Droplets from infected person through sneezing and coughing | 824 (79.5) | 528(64.1) | 296(35.9) |
| Contact with infected materials | 648 (62.5) | 384(59.3) | 264(40.7) |
| Others plausible sources identified by the respondent | 48 (4.6) | 34(70.8) | 14(29.2) |
| Knowledge about main symptoms of Corona virus | N (%) | | |
| High fever | 931 (89.8) | 588(63.2) | 343(36.8) |
| Feeling tiredness | 399 (38.5) | 252(63.2) | 147(36.8) |
| Shortness of breath | 571 (55.1) | 344(60.2) | 227(39.8) |
| Sore throat | 531 (51.2) | 345(65.0) | 186(35.0) |
| Dry coughing and sneezing | 946 (91.2) | 595(62.9) | 351(37.1) |
| Other correct symptoms identified* | 63 (6.1) | 43(68.3) | 20(31.7) |
| Do you think that someone with Corona virus can recover | 842 (81.2) | 565(67.1) | 277(32.9) |

Source: Own construction based on the survey data

Figure III.1: Prime sources of information about the pandemic



Source: Based on the survey data

For a more understanding of the knowledge dimension, we created a comprehensive knowledge score by adding the affirmative responses for a set of knowledge questions presented in Table 1 (i.e. knowledge about means of transmission and symptoms). The minimum and maximum values were 2 and 10 out of eleven knowledge questions, respectively, with an overall mean and SD of 6.9 and 1.65, respectively. Higher values indicate good knowledge and lower values indicate otherwise. It is noted that the mean knowledge index is slightly higher for urban respondents compared to that of rural. The average knowledge level was found higher for males than females. Respondents in the age group of 25-34 had slightly higher knowledge score (7.09) while people in the older age group (50-64 and 64+) had relatively lower knowledge score compared to the other groups.

The findings suggest that there is a good level of knowledge about the COVID-19 outbreak. The reported finding on correct responses to most of the knowledge questions was expected as the survey was conducted during the very peak stage of the pandemic around the world. Comparable studies conducted in China and other South Asian countries at the peak stage of the pandemic reported similarly higher knowledge level among the public (Bao et al, 2020; Huynh et al, 2020). We may also attribute this primarily to the sample characteristics: to the fact that most of the respondents were drawn from the urban areas and 87% of the study sample have primary or higher level of education.

Table III.2: Mean knowledge index by background characteristics, n=1037

| Characteristics | n | Mean Knowledge (CI) |
|------------------------------|-----|---------------------|
| Place of residence | | |
| Urban | 653 | 6.99 (6.67- 6.92) |
| Rural | 384 | 6.97 (6.81-7.14) |
| Sex of the respondent | | |
| Male | 693 | 6.99 (6.87-7.116) |
| Female | 344 | 6.62 (6.44-6.79) |
| Age of the respondent | | |
| 18-24 | 129 | 6.63 (6.35-6.91) |
| 25-34 | 354 | 7.09 (6.92-7.25) |
| 35-50 | 403 | 6.91 (6.74-7.07) |
| 50-64 | 107 | 6.40 (6.09-6.71) |
| 64+ | 39 | 6.54 (5.96-7.12) |
| Regions/Cities | | |
| Tigray | 80 | 8.56 (8.32-8.80) |
| Afar | 60 | 6.17 (5.76-6.58) |
| Amhara | 216 | 5.95 (5.76-6.14) |
| Oromia | 223 | 7.63 (7.44-7.82) |
| Somali | 78 | 8.04 (7.78-8.29) |
| Benishangul Gumuz | 25 | 8.52 (7.99-9.05) |
| SNNPR | 190 | 6.52 (6.34-6.69) |
| Gambella | - | 7.73 (6.97-8.48) |
| Harari | 20 | 5.85 (5.21-6.49) |
| Addis Ababa | 104 | 6.03 (5.74-6.31) |
| Dire Dawa | 30 | 5.67 (5.23-6.10) |

Source: Based on the survey data

The findings also reveal that there are still reasonable amount of knowledge gaps among females than males, among older age groups than younger ones, and residents of certain regions in correctly identifying the means of transmission and key symptoms among the population. It is worth mentioning that poor COVID-19 knowledge scores for good proportion of participants could lead to a higher chance of having negative attitudes and potentially dangerous practices towards the COVID-19 pandemic. Our findings of the demographic factors associated with knowledge about COVID-19 are generally consistent with previous studies on SARS in 2003 (Zhang et al, 2003) and most recent COVID-19 studies around the world (Bao et al., 2020). It suggests that health education intervention would be more effective if it targets certain demographic groups (such as rural residents, females, and aged groups) and regions (such as Dire Dawa/Harari, Amhara, and Afar regions) where the overall average on COVID-19 knowledge is relatively lower. As most people are reportedly getting the information about the outbreak from one or two sources, use of a diversified media outlet may improve choices and enhances level of knowledge. In Table 3, the percentage distribution of respondents for responses on a set of attitude questions is presented. The Cronbach's alpha coefficient of the attitude questionnaire was 0.69 in our sample, indicating acceptable internal consistency among the items (Taber, 2018).

It appears that the overall attitudes towards the virus is somewhat worrying as good proportion of respondents reported unfavorable attitudes regarding how the virus is transmitted and prevented. For instance, close to a third of the study participants believed that practicing social/physical distancing makes little difference in preventing contracting of the virus. About 33% believe that Coronavirus is more of an act of God, and there is nothing they could do to prevent it. The believe that anyone who does not show the common signs and symptoms is free from the virus was shared by close to 25% of the respondents. Some believed that the virus is more likely to attack a certain group of people (such as white people than blacks; men than women).

Our findings on the attitudes of the public towards the pandemic is worrisome due to two major reasons. First, unfavorable attitudes/ belief about the means of transmission among such larger population undermines the huge efforts being made by the government in curbing this deadly pandemic. Second, it adversely affects those who strictly follow advises and those who believe that the pandemic is dangerous and imminent if proper behavioral changes are not practiced. Actions are thus needed now to ensure that as the pandemic unfolds, all people are adequately made aware of the gravity of the threat, with greater clarity and attention to health literacy best practices.

Table III.3: Attitudes towards the COVID-19 pandemic

| Indicators | Strongly agree (%) | Agree (%) | Neutral (%) | Disagree (%) | Strongly disagree (%) |
|--|--------------------|-----------|-------------|--------------|-----------------------|
| In my opinion, practicing social/physical distancing makes little difference in preventing contracting of the virus. | 6.1 | 24.7 | 1.6 | 49.2 | 18.4 |
| Corona Virus is more of heavenly order, and it makes no difference if I take protective/ preventive measures. | 4.8 | 25.4 | 3.1 | 43.7 | 23.0 |
| ‘Staying at home’ leaves many with loss of income and yet makes little difference in reducing the transmission of the virus. | 2.1 | 19.3 | 4.2 | 55.1 | 19.3 |
| The virus is more likely to attack a certain group of people such as | | | | | |
| • whites than black people. | 3.0 | 13.8 | 6.1 | 54.6 | 22.6 |
| • Men than women. | .7 | 6.6 | 8.4 | 59.9 | 24.5 |
| • Aged than children | 10.9 | 37.1 | 4.8 | 38.4 | 8.8 |
| I believe that anyone who does not show the common sign and symptoms is free from the virus | 2.1 | 20.8 | 3.9 | 51.4 | 21.8 |
| Taking some dose of local food ingredients (such as garlic, honey, ginger, local liquors and other related local food/drink ingredients) do effectively prevent or cure Corona Virus | 2.9 | 16.8 | 6.3 | 54.4 | 19.7 |

IV. SUMMARY AND CONCLUSION

To the best of our knowledge, this survey is the first population-level study examining the current knowledge and attitude towards COVID-19 in Ethiopia. The main intention was to quickly capture the level of knowledge and nature of attitudes among the public that could adversely affect the current efforts of fighting against the pandemic. The findings are thus believed to be useful for public health policymakers and educators to identify/recognize target populations for COVID-19 prevention and health education. Given the fact that the survey was predominantly urban biased, we acknowledge that some of the findings should be cautiously interpreted. For instance, we may have overestimated correct knowledge and rates of favorable attitudes towards COVID-19 in urban areas. This limits the generalizability of the findings for the predominantly non-literate rural population.

However, we still believe that these findings will be useful to advise policymakers using self-reported rapid assessment of COVID-19 in Ethiopia.

The overall finding indicates that knowledge of the pandemic is generally good in the population. However, the findings show that there are still significant portions of the population lacking the correct knowledge of the symptoms and means of transmission. There is huge urban-rural differences in the level of correct knowledge. Also, given the fact that significant proportions of respondents have unfavorable attitudes about the virus, provision of continuous education with proper messaging through multiple media would significantly enhance prevention practices and reduce potential stigma and discriminations related to the disease.

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