Perceptions and Preventive Practices of COVID-19 Among Government Employees in Addis Ababa, Ethiopia

Purpose
This policy brief describes the major findings from an institution-based study conducted from 8th to 19th June 2020 to assess risk perceptions and preventive practices of COVID-19 among 1,573 government employees selected from 46 public institutions (16 National, 18 from Addis Ababa City Administration, and 12 from Oromia Regional State) located in Addis Ababa, Ethiopia. This brief also offers recommendations based on the findings to improve the public health measures to prevent and control the ongoing COVID-19 pandemic. The preparation of this policy brief was led by Addis Ababa University College of Health Sciences (see contact details on the last page).

Key findings
• This study identified higher knowledge among respondents about COVID-19, including its mode of transmission, signs and symptoms, incubation period, vulnerable population and preventive measures.
• Of the respondents, only 35% thought that they had very good knowledge on how to prevent the spread of coronavirus, and 57% reported that they had good or adequate knowledge to prevent the spread of the virus.
• Wearing facemasks (95.9%), frequent hand washing (94.1%), avoidance of close contact with people including hand shaking (94.5%), covering mouth/nose while coughing or sneezing (90.8%) and not touching the T-Zone (eyes, nose and mouth) (90.7%) were among the most self-reported adopted preventive behaviors.
• More than half of the respondents from all institutions did not strongly agree with a statement ‘consistently wearing facemask is highly effective in preventing the spread of COVID-19’. Likewise, only half of the respondents strongly agreed to recommend facemask for healthy people out of the healthcare setting.
• More than two-third of the respondents from all institutions strongly agreed that they followed the recommendations of the authorities in Ethiopia to prevent the spread of coronavirus.
• The electronic media such as television (85.5%), social media (74%), online materials (71%) and radio (60.8%) constituted the primary source of information, followed by health workers (66.6%), friends/family members (54%) and print materials (35.4%). Television (32.2%) and health workers (30.5%) constituted the most trusted sources of information related to COVID-19.
• About 19% of the respondents reported that they had ever tested for coronavirus infection, with 25% of respondents at national level, followed by Addis Ababa (19.3%) and Oromia (7.7%).
• Over half (57%) of the participants believed that the current measures taken by the Government to contain the spread of coronavirus are inadequate (37.7%) or very inadequate (19.4%).
• The majority (75.8%) of the respondents reported that they worried a lot about the current economic crisis in the country due to COVID-19.
• Respondents suggested that proper physical distancing should be maintained in the workplace by reducing and restricting the number of workers in the office at a time through working by shift/rotation or annual leave to limit close contact among the workers.
• Furthermore, the respondents worried about the low public compliance to the COVID-19 preventive measures and suggested that the community should be advised to restrict mobility, stay at home if possible, to reduce risk of coronavirus transmission, and stay away from others if symptomatic.

Summary recommendations
Given the above findings, we offer the following recommendations for policymakers:
• Despite the concerted efforts to control the spread of COVID-19, public compliance to the preventive measures appears to be low. Intensifying awareness of the public about the preventive measures should be strengthened and elevated particularly using mass media and community organizations to improve uptake of behavioral health interventions to mitigate the spread of the pandemic.
• Physical distancing, universal masking and hand hygiene practices are effective to control the spread of the virus and the promotion of these measures should be strengthened and continuously monitored. Officials and authorities at all levels need to ensure that the public understands clearly about the effectiveness of these public health interventions and appropriate measures should be taken to enforce these measures.
• Adequate facemasks, sanitizers, disinfectants and proper hand washing facilities should be available at all workplaces to improve easy access for the workers and customers.
• Institutions should have proper guidance and guidelines for preparing their workplaces to address occupational health concerns related to COVID-19 in order to ensure the safety and protection of workers including maintaining proper work environment and arranging transport services for their employees.
• Screening all workers and customers/clients entering the workplace for symptoms of COVID-19 such as measuring body temperature is an important component of preventing transmission and protecting workers. This testing strategy should be maintained and strengthened at all workplaces by availing proper infrared thermometers and trained staff.
• It has been understood that many asymptomatic people tested positive for coronavirus and accounted for a substantial transmission of the infections in Ethiopia. COVID-19 testing plays a role in identifying such people and helps to prevent further spread of the virus. Therefore, COVID-19 testing facility and capacity should be strengthened and expanded so that it can be easily accessible to people who need the service.

Background
The coronavirus-disease-2019 (COVID-19) is one of the most severe pandemics with devastating morbidities and fatalities. The pandemic has already covered all countries and territories around the world and caused over 28 million confirmed cases and more than 900,000 deaths as of 10th September 2020. Ethiopia has reported 63,367 confirmed COVID-19 cases, 986 deaths, and 24,024 recoveries from 1,122,659 tests performed as of 11th September 2020. Currently there is no effective antiviral treatment or vaccine for COVID-19. As a result, a range of public health measures, particularly behavioral interventions, have been implemented to contain and mitigate the spread of coronavirus. Despite the efforts to control COVID-19 in Ethiopia, community transmission is currently ongoing and the numbers of cases are rising alarmingly. Knowledge and perceptions about the susceptibility and severity of COVID-19, and benefits of preventive public health interventions play a critical role in behavioral changes. The aim of this study was to assess the perceptions and preventive practices of COVID-19 among government employees in Addis Ababa during the earlier stages of the pandemic.

Methods
This institution-based cross-sectional study was conducted from 8th to 19th June 2020 in Addis Ababa, three months after Ethiopia reported the first confirmed COVID-19 case on 13th March 2020. The survey was conducted among 1,573 government employees selected from 46 public institutions (16 National, 18 from Addis Ababa City Administration, and 12 from Oromia Regional State) located in Addis Ababa. About 40% (n=624) were drawn from national institutions, followed by participants from Addis Ababa City Administration institutions (38.8%, n=610) and Oromia Regional State (21.6%, n=339). The reasons for selecting those institutions were because of their diversity in terms of the types of employees, education, experience and their involvement in decision making processes at various regional and national hierarchies. Paper-based self-administered Amharic and Afan Oromo questionnaires were used for data collection. Approval to conduct the study was obtained from the IRB of the College of Health Sciences at Addis Ababa University. Informed consent was obtained from each study participant.

Results
Knowledge of COVID-19
The overwhelming majority (92.9%) of the study participants knew that COVID-19 was caused by a viral infection, and this was consistently higher (>91%) across the three government levels (National, Addis Ababa and Oromia). Meanwhile 89% of the respondents correctly identified the mode of coronavirus transmission via respiratory droplets produced when an infected person coughs or sneezes. Nearly 93% of the respondents correctly cited that the maximum incubation period for the coronavirus was up to 14 days. The most commonly
cited signs and symptoms of COVID-19 included fever (96.9%), cough (95.2%), difficulty in breathing (95.2%), headache (90.3%), sore throat (83.9%) and myalgia (81%), with less commonly reported symptoms such as loss of taste and smell (49.2%), runny nose (46.1%), diarrhea (41.2%) and coughing up of blood (31.7%). About 95% of the respondents correctly stated the unavailability of specific vaccine or antiviral treatment for COVID-19 at the moment.

**Knowledge of preventive measures and self-reported practices**

Of the respondents, only 34.6% thought that they had very good knowledge on how to prevent the spread of COVID-19, and 56.5% reported that they had good or adequate knowledge to prevent the spread of the virus. The overwhelming majority (>90%) of the respondents across all institutions reported very high knowledge level of coronavirus prevention that included the most important prevention measures such as stay at home, physical distancing, avoiding close contact with people including hand shaking, use of facemask, frequent hand washing with water and soap, avoiding touching eyes, nose and mouth, avoiding mass gatherings, movement restriction and use of sanitizers/disinfectants.

Regarding self-reported preventive practices, more than 9 in 10 respondents reported wearing of facemask (95.9%), avoiding close contact with people including hand shaking (94.5%), frequent hand washing (94.1%), covering mouth/nose while coughing or sneezing (90.8%) and avoiding touching the T-Zone (eyes, nose and mouth) (90.7%). The majority also reported avoiding mass gatherings (88.1%), disinfecting surfaces (77.6%) and mobile phones (76.9%). Meanwhile more than half (57.9%) of the respondents (64% from Oromia, 58% from national and 54% from Addis Ababa) reported that they used garlic, ginger and lemon for prevention of coronavirus infection. As opposed to the universally higher knowledge of movement restriction and staying at home for the prevention of coronavirus, the self-reported practice of these preventive measures was only 71.8% and 38.5%, respectively.

Only 2% (n=31) of the respondents reported that they were quarantined due to COVID-19 and reported some aspects of its psycho-social impact such as fear, loneliness, disturbance and worrisome. About 19% of the respondents reported that they had ever tested for coronavirus infection, with 25% of respondents at national level, followed by Addis Ababa (19.3%) and Oromia (7.7%). With regard to the question on the certainty of getting a coronavirus testing if needed, only 11% of the respondents were completely sure, 18% were very sure, and 26% were somewhat sure. However, 15% did not know and 14.6% were not at all sure about the confidence of getting coronavirus testing if they wanted to be tested.

**Perceptions towards the use of facemask**

Overall, 80.4% of participants agreed that consistently wearing facemask is highly effective in preventing the transmission of coronavirus, and about 92% reported that they recommended facemask for healthy people out of the healthcare setting. However, only 35.4% of respondents from all institutions strongly agreed with ‘consistently wearing facemask is highly effective in preventing the spread of coronavirus’ (Fig.1). Likewise, about half (50.7%) of the respondents strongly agreed to recommend facemask for healthy people out of the healthcare setting. Only 9.3% of the respondents disagreed about the effectiveness of facemask in the prevention of coronavirus infection.

**Sources of information about COVID-19**

An electronic media such as television (85.5%), social media (74.1%), online materials (71.1%) and radio (60.8%) constituted the primary sources of information about COVID-19, followed by healthcare workers (66.6%), friends/family members (54.1%) and print materials (35.4%). Television (32.2%) and health workers (30.5%) constituted the most trusted sources of information related to COVID-19, followed by social media (8.7%) and online materials (7.1%). The respondents also reported a combination or other trusted sources of information on COVID-19 such as a combination of radio/television, television/health workers, radio/television/health workers, and websites such as MoH/EPHI and WHO.
Risk perceptions of COVID-19

The majority (63.9%) of the respondents either agreed or strongly agreed that their personal health is at risk during the current COVID-19 due to their work or occupational characteristics (Fig.2). However, only one-fifth of the participants strongly agreed with that statement. Though their personal risk perception was low, about 78% were concerned that COVID-19 might increase symptoms of any established physical conditions of a person. Meanwhile 77.7% of the respondents expressed their concern that the current COVID-19 might increase symptoms of any established mental health conditions of a person, while about 12% said “no”. The overwhelming (94.4%) majority of the respondents reported that the current COVID-19 might have impacted the social and economic wellbeing of an individual. Only 7.1% of the respondents reported that they had any chronic medical illness, but about 15% did not know their health status.

The majority (77.7%) of the respondents believed that their chance of being infected with coronavirus was likely or very likely and they reported that they were susceptible (67.1%) or very susceptible (12.6%) to infection with the virus. Almost all respondents correctly stated that people with recent travel history abroad (86.8%) or people with contact with COVID-19 patients (93.5%) were the high-risk group most likely to be infected with the virus. However, more than half (50.9%) of the study participants reported that people without travel history nor had contact with confirmed COVID-19 cases are also most likely to be infected with coronavirus. About 84% of the respondents perceived that older adults and elderly (above 60 years) were most at risk to die from COVID-19. Meanwhile, 62.8% of the study participants reported that both male and female have equal chance to die from the disease although 22.2% perceived that males had more chance to die from COVID-19. With the group of adults more likely to die if contracted COVID-19, the majority of the respondents reported that adults with other underlying health problems (95.4%), adults who are cigarette smokers (88.1%) and adults who frequently use substances such as alcohol, khat and cannabis (87.5%) were more likely to die from COVID-19. In contrast, just over one-fifth (21.9%) of the respondents reported that adults without other underlying health problems are also most likely to die from COVID-19.
Perceptions about adequacy of COVID-19 policy responses

The majority (66.9%) of the respondents reported that they always followed the recommendations by the government to prevent the spread of coronavirus in contrast to 28.7% of respondents who reported that they occasionally followed the recommendations from the authorities to combat COVID-19. Just under the third (31.3%) of the respondents strongly agreed that the policy responses the government had taken to contain the spread of coronavirus were fair and reasonable, and 38.5% agreed with the policy responses. However, 22.8% of the respondents in Oromia disagreed about the reasonability of policy responses taken by the government.

Overall, 57.1% of the study participants (63.7% from Oromia as compared with 59.3% in Addis Ababa and 51.1% at national level) believed that the policy measures taken by the government to contain COVID-19 were inadequate.

Respondent’s suggestions to address COVID-19 pandemic

The survey included an open-ended question for free-text responses to enable the respondents to freely suggest or recommend anything they wished on ‘priority things that could be done by the Government or their institution to stop the spread of COVID-19 pandemic in Ethiopia’. The summary of the responses is presented as follows:

- Proper guidance and guidelines should be developed by each institution/organization for preparing their workplaces for COVID-19.
- Reduce the number of workers in the office. Proper physical distancing should be maintained in the workplace by reducing and restricting the number of workers in the office at a time through working by shift/rotation or annual leave to limit close contact among the workers.
- Elderly, people with underlying health problems and other susceptible workers should get priority of staying at home by permission or leave to work at home.
• Maintain physical distancing while out of office. People should maintain physical distancing particularly when using public transport or travelling on foot and in crowded areas to prevent the spread of COVID-19 among people with close contact.
• Provide adequate PPEs to workers. Proper PPEs such as facemasks, sanitizers and disinfectants should be sufficiently available in the workplaces for the workers.
• Arrange and monitor handwashing facilities in all workplaces.
• Surfaces and objects in the workplaces should be regularly cleaned and disinfected.
• All workers should use facemasks inside or outside offices, and impose mandatory masking for all people regardless of working status.
• All workers and visitors entering the workplace should be measured their temperature by availing proper infrared thermometers and trained staff.
• Reduce the number of customers visiting the office. Offices are providing services for different customers. To avoid any overcrowding, the number of customers visiting offices should be minimized through proper planning and improving efficiency. Online service for customers should be implemented if possible.
• Public compliance to the COVID-19 preventive measures is low. The community should be advised to restrict mobility and stay at home if possible, to reduce risk of coronavirus transmission, and stay away from others if symptomatic.
• Awareness raising of the public about preventive measures should be strengthened and intensified to mitigate the spread of COVID-19.
• Proper and adequate PPEs should be available for healthcare workers in the COVID-19 centers or non-COVID-19 healthcare facilities.
• Healthcare workers involved in the management of COVID-19 patients should stay in the healthcare facility and proper housing should be provided to them.
• COVID-19 testing capacity should be strengthened and expanded in the country so that it can be easily accessible to people who need the service.
• Mass screening and testing should be conducted to understand the magnitude and current status of COVID-19 in the community. In addition, access to testing services for the government employees should be arranged.
• Hotspot areas in the community should be locked down to effectively control the spread of COVID-19.
• Basic goods and foods for the community should be available in the nearby areas so that movement can be limited.
• The institutions/organizations should arrange adequate transport services for their employees.
• Reduce the number of people in the market areas and transport terminals to reduce close contact among people.
• Reduce public transport services to and from Addis Ababa to restrict mobility.
• Addis Ababa should be a major focus for the prevention and control of COVID-19 and this will have an impact in terms of reducing the spread of the virus to the regions. At the same time, focus should be given for cities and small towns in the regions.
• Mass gatherings including crowded places should be avoided until the spread of COVID-19 will be under control.
• Restaurants, bars and other food service establishments should be strictly monitored that they implement measures to mitigate the exposure and spread of COVID-19 among their workforce and customers.
• The authorities should properly enforce rules and regulations imposed by the Government to control the spread of COVID-19.
• The community should comply to the rules and regulations imposed by the Government to control the spread of COVID-19, and
• Street people should get attention from the Government to protect them from COVID-19.
Conclusions
Knowledge and perceptions have great roles in behavioral change and efforts should focus on improving the perceived susceptibility, severity, and benefits of preventive behavioral changes. In the current pandemic scenario, people should follow the Governments’ instructions and properly apply physical distancing. Also, washing hands frequently and following strict personal hygiene measures are necessary to control the spread of the virus. As the number of COVID-19 cases has started to quadruple and the severity of the pandemic has increased after this survey, it would be more informative to repeat this survey during this heightened phase of the epidemic to assess whether the currently high levels of knowledge and behavior changes achieved among the current study population are comparable to the local population. Although conducting an online survey is a practical approach, it is challenging to survey the local community online or in-person due to their limited access to internet, low literacy level or due to the ongoing physical distancing rules. This study only included employees in public institutions located in Addis Ababa, where more vulnerable populations and illiterate people were not captured. Therefore, the findings should be interpreted cautiously.

Acknowledgements
The study was funded by Addis Ababa University Thematic Research and partly supported by the School of Public Health. The authors are grateful to the research staff at the College of Health Sciences. The authors are also grateful to the data collectors, study participants and logistics facilitators for their time and contributing to the research.

References

Contact details
This brief was developed by the following core group of academicians and researchers at the College of Health Sciences of Addis Ababa University:
1. Prof. Wakgari Deressa, Addis Ababa University School of Public Health. Email: deressaw@gmail.com.
2. Prof. Alemayehu Worku, Addis Ababa University School of Public Health, Email: alemayehuwy@yahoo.com.
3. Mr. Sefonias Getachew, Addis Ababa University School of Public Health, Email: safoget@yahoo.com
4. Dr. Workeabeba Abebe, Addis Ababa University School of Medicine, Email: workeabebasol@gmail.com.
5. Dr. Wondwossen Amogne, Addis Ababa University School of Medicine, Email: wonamogne@yahoo.com.