Adoption of Preventive Practices for COVID-19 in Ethiopia

Findings from a telephone-survey

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ADOPTION OF PREVENTIVE PRACTICES FOR COVID-19 IN ETHIOPIA

Findings From a Telephone-Survey

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I. BACKGROUND

The pandemic of COVID-19 that originated in Wuhan, China has been spreading globally since December 2019. The World Health Organization (WHO) announced COVID-19 as a public health emergency of international concern on January 30, 2020 and in due course declared it as a pandemic on March 11, 2020 (WHO, 2020). The COVID-19 outbreak is caused by a novel type of Coronavirus, SARS-Cov-2. Coronaviruses are enveloped, single stranded large RNA viruses that infect humans, and a wide range of animals (Velavan and Meyer, 2020). The virus may cause severe disease and fatalities especially by affecting respiratory organs (Liu et al., 2020). Given that it is an infectious disease that exhibits human-to-human transmission, individual and societal practice of preventive mechanisms are crucial to reduce the spread and containment of the virus.

The first Coronavirus case was reported in Ethiopia on March 13, 2020, and the number of cases has continued to increase slowly afterwards. With 26,517 tests conducted as of May 7, 2020, there were 162 cases reported, out of which four had died (Worldometer, 2020). Consequently, the Government of Ethiopia and concerned ministries (especially the Ministry of Health) undertook various information dissemination activities about the virus as well as how individuals can practice effective preventive measures. Given the social life in Ethiopia and the living condition where dense communities are at particular risk, implementing these preventive measures has enormous advantage to save lives and avoid spread of the virus. The Government of Ethiopia undertook various preventive measures to reduce impacts of the pandemic, including suspension/closure of schools, sporting events, and public gatherings for 15 days[1], a regulation for anyone entering into Ethiopia to undergo a mandatory Government supervised-quarantine for 14 days, and later on declaration of a five-month long state of emergency on April 8, 2020.

This study examines prevalence of self-reported preventive practices in response to Coronavirus pandemic in Ethiopia using rapid assessment survey. The major preventive practices considered in this study were wearing facemasks, wearing disposable hand gloves, using hand sanitizer/disinfectants, washing hands for 20 seconds or more, avoiding large gatherings, avoiding touching one's face, avoiding shaking hands, avoiding touching objects/surface in public, and avoiding public transportation. Demographic and socio-economic factors associated with practice of preventive mechanisms such as age, marital status, education, residential location and employment situation were also investigated.

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[1]_As of May 11, 2020, when this insight is released schools, sporting events, and public gatherings remain closed in Ethiopia._

II. METHODS

The rapid assessment survey was employed with a mobile phone-based data collection approach with a cross-sectional design targeting citizens of age 18 and above in nine regional states and two city administrations in Ethiopia[1]. The sampling of this survey aimed to construct a nationally representative sample that could help to draw inference vis-à-vis understanding the various preventive practices being undertaken in response to COVID-19. The phone-based survey is the preferred option because it was impossible to conduct face-to-face interview during the on-set of COVID-19. A stratified random sampling strategy was used where the regional states/city administrations constituted our strata. We assume the sampling margin error to be 3% at a 95% confidence level for the national eligible population.

Figure II.1: Distribution of respondents across regions in Ethiopia.

Urban   Rural
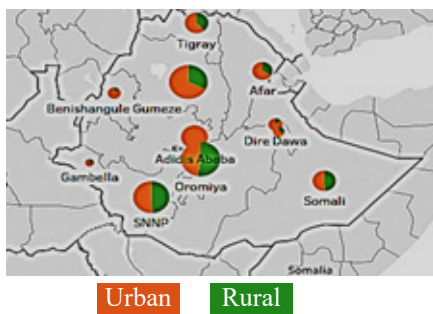
Sampling frame for a mobile phone survey could be from three sources. These include sampling from existing nationally representative survey with phone number of respondents; sampling from a list of valid phone numbers from telecom; and using random digital dialing (Himelein et al., 2020). Out of these three alternatives, the most viable and immediately accessible option for the rapid assessment was found to be the first one where sample of respondents were taken from an already conducted nationally representative survey with registered phone numbers of respondents[1]. A total of 1,037 respondents were interviewed by sixteen enumerators who were trained for conducting the phone-based survey. Data collection was conducted from April 9-25, 2020 where the phone survey took an average of 25 minutes.

Statistical Analysis: the prevalence of preventive practices was examined using descriptive statistics (means and percentage of frequencies). The association between the most prevalent preventive mechanisms and demographic and socio-economic characteristics of respondents was assessed using Pearson's Chi[2] test at 95% confidence interval.

1 The nine regional states include: Afar, Amhara, Benishangul-Gumuz, Gambella, Harari, Oromia, SNNP, Somali, and Tigray and the two city administrations of Addis Ababa and Dire Dawa.

1 For details on sampling design, sampling frame and details of the phone-based survey, Frontieri can provide a detailed report upon request.

III. RESULT AND DISCUSSION

The vast majority (73%) of respondents washed their hands as preventive mechanism. This is an encouraging number with about 50% of them washing their hands about 6-10 times per day. The average number of times respondents washed their hands is 8 times per day (Table III.1). This preventive measure have been widely communicated through TV and radio as the most viable means of preventive mechanism.

Examining the association of the number of times of washing hands with socio-economic characteristics, we did not find a significant difference due to location (rural vs urban) and sex of respondents (Table III.2). However, a significant difference was observed in relation to age group, marital status, education and job category. For instance, the findings show that those with Master's and college degree wash their hands, on average 10.6 and 9.1 times per day, respectively (Figure III.1). In contrast, those with no education and elementary education washed their hands 7.3 and 6.9 times a day, respectively. This shows existence of a clear association between the frequency of washing hands and education level.

Figure III.1. Average number of times respondents washed their hands per day
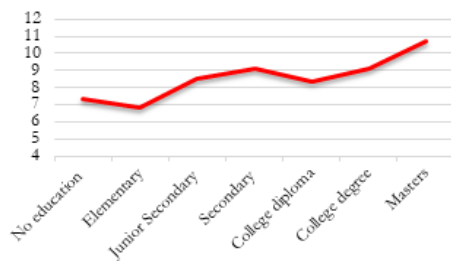

Table III.1. Prevalence of preventive practices

Preventive practices	Number (%)
Wear facemasks	181 (17.45)
Wear disposable gloves	112 (10.80)
Use hand sanitizers/ disinfectants	463 (44.65)
Wash hands for 20 seconds or more	761 (73.38)
Avoid large gatherings/ long queues	495 (47.73)
Avoid touching face	312 (30.09)
Avoid shaking hands	684 (65.96)
Avoid touching objects/ surface in public places	242 (23.34)
Avoid public transportation	266 (25.65)
Practiced social distancing	725 (69.91)
Practiced 'stay at home' in the past 7 days	542 (52.27)
Number of times respondents washed hands per day (average)	8.2
1-5 times	339 (32.69)
6-10 times	516 (49.76)
11-15	114 (10.99)
>16	68 (6.56)
N	1,037

Source: Own construction based on survey data

The second preventive measure most reported by respondents was avoiding shaking hands (65.9%). Here, we find that respondents that are male and respondents from rural location reported that they avoid shaking hands. As well, job categories were found to have a significant association in avoiding shaking hands. On the other hand, there was no significant difference with regard to avoidance of handshakes by age, marital status, and level of education.

Avoiding large gatherings/tight queues is the third preventive measure most reported by about 47.7% of the respondents, of which, male and married respondents were relatively the majority. As well, education and job category are found to have significant association with practice of avoiding large gatherings and tightly packed queues as preventive mechanism (Table III.2).

The survey has also examined if respondents had practiced social distancing/ physical distancing in the previous seven days. Each respondent was probed if she/he attended a funeral, wedding, went to large marketplace or other celebrations in the reference period. The findings show that about 70% of respondents reported practicing social distancing (Table III.1). This figure, however, needs to be taken with caution. In the context of Ethiopia, where social life and social networking is highly prevalent, the definition and concept of social distancing might be fuzzy. About 52.27% of respondents reported to have practiced 'stay at home' in the preceding 7 days prior to the telephone survey (Table III.1). It was mostly male respondents and those from urban location who reported to practicing 'stay at home'.

Given that COVID-19 is an infectious disease, wearing facemasks to protect self and others from droplets of fluids (saliva and mucus) is one of the preventive measures widely practiced, especially in Asian countries, and recently in Europe. For instance, Germany has made wearing facemasks mandatory while in shops, grocery stores, and shopping malls, as well as on local public transportation. The self-reported survey in Ethiopia shows that only 17.5% of respondents wear facemasks (Table III.1). This figure is quite low and worrisome. Even if washing hands and keeping social/physical distancing are major preventive mechanisms recommended by WHO and Ministry of Health in Ethiopia, it seems that until the vaccination for COVID-19 is developed, individuals would need to adopt a wide array of preventive mechanisms.

As Europe and Asia are transiting into adjusted life with COVID-19, wearing facemasks have become mandatory at public locations. Hence, it would be important to make facemasks readily and widely available in the market at affordable prices in Ethiopia, and more importantly, promoting/enforcing the practice and behavior of wearing facemasks atpublic locations would be imperative. According to our self-reported survey data, we find that out of those who reported to wear facemasks, the majority are female respondents, respondents from urban locations, and those with higher education level.

Table III.2. Demographic and Socio-economic factors associated with preventive measures to avoid contracting COVID-19.

	N (%)	Washed hands for more than 20 seconds		Avoid shaking hands of others		Avoid large gatherings	
		Row %	P-value*	Row %	P-value	Row %	P-value
Place of residence							
Urban	653 (62.97)	73.51	0.908	59.42	0.000	46.55	0.321
Rural	384 (37.03)	73.18		77.08		49.74	
Sex of the respondent							
Male	693 (66.83)	72.15	0.202	70.42	0.000	51.37	0.001
Female	344 (33.17)	75.87		56.98		40.41	
Age of the respondent							
16-24	133 (12.84)	87.97		64.66		45.11	
25-34	354 (34.17)	67.23		68.36		49.44	
35-50	403 (38.90)	71.22	0.000	65.26	0.631	48.88	0.678
50-64	107 (10.33)	79.44		60.75		43.93	
65+	39 (3.76)	84.62		69.23		41.03	
Marital status of respondent							
Married	782 (75.41)	70.33		67.65		50.38	
Single	194 (18.71)	82.99		63.40		41.75	
Separated	13 (1.25)	84.62	0.003	61.54	0.130	30.77	0.025
Divorced	16 (1.54)	75.00		50.00		25.00	
Widowed	32 (3.09)	84.38		50.00		37.50	
Education level of respondents							
No education	139 (13.40)	68.35		63.31		41.01	
Elementary (1-6)	195 (18.80)	65.13		76.41		55.38	
Junior Secondary (7-8)	163 (15.72)	75.46		63.80		46.63	
Secondary (9-12)	276 (26.62)	76.45	0.033	63.41	0.068	48.55	0.030
College diploma	117 (11.28)	78.63		64.10		39.32	
College degree	144 (13.89)	76.39		63.19		49.31	
Masters	3 (0.29)	100.00		66.67		100.00	
Job category of respondent							
Not working/unemployed	34 (3.28)	76.47		64.71		23.53	
Farmer	244 (23.53)	66.80		79.92		62.30	
Trader	162 (15.62)	69.14		69.14		50.00	
Civil servant	222 (21.41)	75.68		60.81		44.59	
Work in private company	72 (6.94)	81.94	0.006	52.78	0.000	40.28	0.000
Daily laborer	85 (8.20)	65.88		77.65		49.41	
self-employed	65 (6.27)	78.46		53.85		33.85	
Other**	153 (14.75)	82.35		52.94		40.52	
Total sample size	**1,037**						

Source: Own construction based on survey data

*shows Pearson's Chi2 test for relationship between variables at 95% confidence intervals. The Null hypothesis (Ho) is that there is no relationship. To reject the null, we need P-value<0.05 (at 95% confidence).

**'Others' include student; housewife/husband/on leave; and community/religious worker.

IV. CONCLUSION

Limitations: Before drawing a conclusion, we would like to acknowledge some of the limitations related to this study. First, by its very nature, phone-based survey excludes those individuals who do not have a telephone and this could create a bias to make inference about the population. In Ethiopia, data showed that only half of the population subscribed to Ethio-telecom's mobile services[1].

In the same vein, urban bias cannot be ruled out because most respondents with mobile-phone were available in urban areas. Second, reporting bias may also not be ruled out because responses on preventive practices such as handwashing and avoiding handshakes were self-reported and could not be validated. Nevertheless, we believe that since the questions were not sensitive and the enumerators explained the purpose of the survey at the beginning of every interview, it is unlikely that such bias will significantly affect the results. Finally, this study used a cross-sectional design, which means only associations, rather than causal effects, could be inferred.

The WHO special envoy for COVID-19, Dr. David Nabarro remarked that 'COVID-19 pandemic is a massive global emergency which requires international coordinated effort'. Given that the pandemic is an outbreak of infectious disease, the control of the spread, however, cannot rely only on Government measures and international coordination. Equally important and relevant are instituting preventive behaviors and practices at individual and household level. That is why individual self-reported data is of immense use to understand the effective implementation of preventive measures and what correlates significantly to these measures. For this, FRONTIERi conducted nationally representative phone-based survey on 1,037 individuals in rural and urban locations of Ethiopia. Given that the first COVID-19 case was identified in Ethiopia on March 13 and this survey was conducted from April 09-25, it makes it the first nationally representative survey aimed to thoroughly identify the extent and practice of preventive mechanisms as self-reported by respondents.

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[1]*https://www.statista.com/statistics/749655/ethiopia-ethio-telecom-density-penetration/*

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The on-going examination of preventive measures amidst the outbreak of COVID-19 and provision of real-time data can help decision-makers to adjust their measures. This way, they could direct and modify measures and information regarding the use of viable preventive mechanisms to the public as well as design targeted interventions in terms of information dissemination regarding preventive mechanisms to reduce spread of COVID-19 in Ethiopia.

In summary, the overall findings indicate that washing hands and avoidance of shaking hands are highly practiced as preventive practices. We find that the number of times respondents washed hands per day are is significantly associated with education level of respondents. This shows that targeted interventions are needed to address those with lower level of education. The finding that male respondents are found to avoid shaking hands and large gatherings as compared to female ones implies that females could be vulnerable to the spread of the coronavirus. In view of the reality of Ethiopian long-entrenched social networks, it could be highly relevant to use women groups, and informal community institutions, like Equb and Idir, for information dissemination regarding pandemic and promoting the practice of preventive measures such as social/physical distancing and 'stay at home'. Finally, the use of facemasks was found to be quite low. Hence, promoting the behavior of wearing facemasks especially at public locations would be vital to fight the spread of COVID-19 in Ethiopia.

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