



# Scientific Journal of Immunology & Immunotherapy

## Review Article

# A Review on Knowledge, Attitude, and Practice during the COVID-19 Pandemic in Ethiopia - @

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**Submitted: 08 August 2020; Approved: 22 August 2020; Published: 24 August 2020**

**Cite this article:** Teferi SC. A Review on Knowledge, Attitude, and Practice during the COVID-19 Pandemic in Ethiopia. *Sci J Immunol Immunother.* 2020;4(1): 010-015.

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## ABSTRACT

The novel coronavirus has been declared by World Health Organization as a global public health emergency of International concern on January 30, 2020. COVID-19 has infected more than 17,660,523 people worldwide, with more than 680,894 deaths in different regions and countries. Based on the World Health Organization (WHO) Africa report, as of 02 August, 2020, a cumulative total of 802,792 confirmed COVID-19 cases with 13,779 deaths have been reported across all African countries in the region. In Ethiopia the virus spreads alarmingly because the community didn't practice the information given by Ministry of Health and the Government; as of August 2, 2020, 17,999 cases and 284 deaths. Researchers have suggested that the level of panic is correlated with knowledge and attitude among the population. Good Knowledge, Attitude and Practice are a tool that can hopefully be used to control the spread of COVID-19. Therefore, the Ethiopian government must give information to the society through TV, radio and social media repeatedly. So, the current study aimed to assess/review the knowledge, attitude and perception of COVID-19 pandemic in Ethiopia.

**Keywords:** Ethiopia; Practice; COVID-19; Pandemic

## INTRODUCTION

The 2019 novel coronavirus (2019-nCoV) or the severe acute respiratory syndrome corona virus 2 (SARS-CoV-2) as it is now called, is rapidly spreading from its origin in Wuhan City of Hubei Province of China to the rest of the world [1]. Coronavirus (CoV) is clustered under the viral family group that causes disease in mammals and birds. A pandemic novel coronavirus was named as "Corona Virus Disease 2019" (2019-nCoV) by World Health Organization (WHO) in Geneva, Switzerland [2,3]. This is the deadly third-generation virus in Corona family preceded by Middle East Respiratory Syndrome (MERS) in 2012 and Severe Acute Respiratory Syndrome (SARS) in 2003. Coronaviruses belong to the Coronaviridae family, have a diameter of 65–125 nm, and contain a single strand of RNA with lengths ranging from 26 to 32 kb. Coronaviruses comprise several types, such as alpha, beta, gamma, delta, SARSCoV, H5N1 influenza A, H1N1 2009, and MERS-CoV [4].

The current novel coronavirus disease 2019 (COVID-19) that causes pneumonia is a highly infectious disease, and the ongoing outbreak has affected a huge part of populations around the world. It has been declared by World Health Organization as a global public health emergency of international concern on January 30, 2020 [5]. WHO has described four levels of COVID-19 transmission which are countries or local areas with: No cases reported, Sporadic cases, Clusters of cases (grouped in place and time), or Community transmission [6]. While vaccines and specific medications are not yet available for COVID-19, other public health and social measures play an essential role in reducing the number of infections and saving lives [1].

All ages are susceptible. Infection is transmitted through large droplets generated during coughing and sneezing by symptomatic patients but can also occurs from asymptomatic people and before onset of symptoms [7]. Therefore, health experts advise frequent hand-washing with soap and water. The clinical features of COVID-19 are varied, ranging from asymptomatic state to acute respiratory distress syndrome and multi organ dysfunction. The common clinical features include fever (not in all), cough, sore throat, headache, fatigue, headache, myalgia and breathlessness [8].

COVID-19 has infected more than 17,660,523 people worldwide, with more than 680,894 deaths in different regions and countries. The USA, the major hit country alone, recorded more than 359,180 deaths on early August 2020. Based on the World Health Organization (WHO) Africa report, as of 02 August, 2020, a cumulative total of 802,792 confirmed COVID-19 cases with 13,779 deaths have been

reported across all African countries in the region [9]. In Ethiopia the virus spreads alarmingly because the community didn't practice the information given by ministry of health and the government; as of August 2, 2020, 17,999 cases and 284 deaths [9].

Subsequently, Ethiopia has also commenced monitoring the disease and has implemented the COVID-19 prevention and containment interventions recommended by World Health Organization [10]. Health system of Ethiopia is not as developed as other countries so if the virus is not contained it will cost the country many things. Therefore, community engagement supported by local evidence with strict implementation of social and physical distancing measures is mandatory. Moreover, Knowledge, attitude, and practice (KAP) research can collect information on what is known, believed, and done by a specific population [11]. Understanding the public's level of awareness about the knowledge, attitude, and practice toward COVID-19 is vital to stop the spread of the virus in countries like Ethiopia. Therefore, the current study aimed to assess/review the knowledge, attitude and perception of COVID-19 pandemic in Ethiopia.

## LITERATURE SEARCH

A literature search was conducted in August 1-2 2020 on PubMed and Google Scholar databases using the keywords "knowledge," "attitude," "practice," and "COVID-19, Ethiopia" and the reference list of all identified reports and articles were searched. The search yields a total of 13 articles.

## KAP STUDIES ON COVID-19

Thirteen selected articles on KAP during COVID-19 in Ethiopia (Table 1). The articles used questionnaires and interview (including face to face and telephone) as instruments with the number of respondents ranging from 247 to 1570 for a total of 7,335. The respondents consisted of health workers, population, health students and patients from different corners of the country.

## KNOWLEDGE

Thirteen articles on knowledge about COVID-19 among health workers, hospital staff, students, and sample populations. In general, all articles reported considerable levels of knowledge about COVID-19. A research conducted on 422 health workers showed that nurses obtained higher knowledge scores which is very important to tackle the virus because nurses are one of the frontline workers (Table 1,2).

The majority (70.1%) of the study participants reported that



**Table 1:** List of articles.

NO.	Type of study	Participants	Number of participants	Instrument	Author
1	Cross-sectional study on KAP	Patients (chronic diseases)	404	Questionnaire	[12]
2	Cross-sectional survey on KAP	Arba Minch Town (Population)	528	Online questioner	[13]
3	Cross-sectional survey on KAP	Students at Debre Berhan University	546	Questionnaire	[14]
4	Cross-sectional study on KAP	Population	1570	Telephone interview	[15]
5	Cross-sectional study on KAP	Healthcare workers	422	Questionnaire	[16]
6	Cross-sectional survey on KA	Population	1037	Phone-based survey	[17]
7	Cross-Sectional Study on KAP	Students (Amhara)	408	Questionnaire	[18]
8	Cross-sectional study on KAP	Nurses	415	Questionnaire	[19]
9	Cross-sectional study on KAP	Patients visiting JMC	247	Interview	[20]
10	Online Cross-Sectional Study KP	Population	341	Online questioner	[21]
11	Online Cross-Sectional Survey on KP	Educated individuals	528	Online questioner	[22]
12	Cross sectional study on AP	Southern Ethiopia population	585	Interview	[23]
13	Cross sectional study on K	Health science students	304	Questioner	[24]
<b>Total</b>			<b>7,335</b>		

Abbreviations: K=knowledge; A=attitude; P=Practice.

shaking hands of infected individuals result in the spread of infection. Touching an object or surface with the virus on it, then touching the mouth, nose, or eye, and respiratory droplets of infected individuals through the air during sneezing or coughing were reported as means of COVID-19 transmission by 217 (53.7%) and 337 (83.4%) of the study participants, respectively [12, 13]. In other study among the 546 participants, 71.4% correctly responded that the main clinical symptoms of COVID-19 are fever, fatigue, dry cough, and shortness of breath, and the majority (95%) said currently there is no cure for COVID-19 and more than 73.6% of the participants used social media as their main source of information about COVID-19 [14].

Nearly three-fourth (73.6%) of the respondents has heard about COVID-19 but only 42.4% and 37.8% knew COVID-19 transmission and clinical manifestations, respectively. Only 14% of the respondents knew that the asymptomatic transmission of COVID-19. Respondents from the two most populous regions, Amhara (AOR=0.497 (95%CI: 0.2990-0.6542) and Oromia (AOR=

0.4512; 95%CI: 216 0.3218-0.8026) regional states had poor level of knowledge compared with respondents from Addis Ababa [15]. A study by [16,17] revealed that 350 (88.2%) of participants had good knowledge about COVID-19. The respondents' correct answer rates on the manifestation of COVID-19 were 66.5%. About 75.5% and 82.6% of participants said, that COVID-19 has no specific treatment and vaccine respectively and the majority of healthcare workers gathered information regarding COVID-19 from social media (73.6%) and television (71.5%). However, sources of knowledge about COVID-19 are TV/Radio has a role of 424(80.3%) and followed by a social-media 372(70.5%) according to [13].

A study by [18] showed that 276 (67.6%) of the students said that air droplets from the infected persons can transmit the infection of COVID-19 to healthy individuals. Similarly, 375 (91.9%), 343 (84.1%), and 324 (79.4%) of the participants said that patients with COVID-19 can present with fever, dry cough, and shortness of breath respectively and 293 (71.8%) of the students have gotten information about COVID-19 from mass media (TV, magazines, newspaper, radio) and nearly fifty percent (54.2%) of the participants have gotten information from social media (facebook, Instagram, whatsapp and telegram).

### ATTITUDE TOWARD COVID-19

Knowledge is a prerequisite for establishing prevention beliefs, forming positive attitudes, and promoting positive behaviours, and individuals' cognition and attitudes towards disease affect the effectiveness of their coping strategies and behaviours to a certain extent [13]. A study showed 72% (CI, 67.8 to 76.4) of the study participants had favorable attitude towards the COVID-19 and 85.3% (CI, 82.2 to 88.7) of the nurses had disturbed psychological responses towards the COVID-19 [19-24]. The vast majority of the participants also held an optimistic attitude towards the COVID-19 epidemic: 81.8% believed that COVID-19 will finally be successfully controlled, and 77.3% had confidence that world leader/WHO can win the battle against the virus [13] (Table 3).

### PRACTICE TOWARD COVID-19

Table 4 presents articles on the practice of COVID- 19. Two hundred sixty-five (65.5%) study participants reported that they washed their hands with soap frequently. The majority (71.7%) of the respondents had avoided handshaking. Only one third (36.6%) of the study participants used face mask during leaving their home. The other less frequently practiced preventive measures were avoiding of attending overcrowded place 154 (38.1%) and cleaning and disinfecting of frequently touched objects and surfaces 224 (55.2%). Practicing physical distancing was the least 121 (29.9%) practiced preventive measure [12]. Moreover, 33.3% of respondents had at least one risk behaviors related to COVID-19 infection. Two hundred sixteen (40.9%) of participants gone crowded place and 336(63.3%) were didn't used face-mask when leaving their home. Three hundred ninety-six (75.0%) respondents were used sterilizers before and after touching inanimate object [13] (Table 4).

### CONCLUSION

In those thirteen studies in KAP toward COVID-19; there is a gap between knowledge, attitude and practice that is why COVID-19 is increasingly fast in Ethiopia. The findings also indicated that knowledge directly influenced attitudes. Good KAP is a tool that can hopefully be used to control the spread of COVID-19. Therefore, the

**Table 2:** Knowledge Studies.

No	Author	Participant	Instrument	Knowledge score	Knowledge result
1	[12]	Patients (chronic diseases)	Questioner	33.9% (95% CI (29.3–38.5%))	One-third of chronic disease patients had poor knowledge
2	[13]	Arba Minch Town (Population)	Online questioner	11.48 (SD: 2.25, range: 1-15)	The majority of respondents had good knowledge
3	[14]	Students at Debre Berhan University	Questioner	9.6 ± 1.8 with a range of 0–13	Most of participants (403 (73.8%)) scored above the mean and were considered as having good knowledge.
4	[15]	Population	Telephone interview	4.2 (SD=2.809, range 0-10)	knowledge is unsatisfactory
5	[16]	Healthcare workers	Questionnaire	350 (88.2%)	The greater the knowledge of healthcare workers, the more confident they were in defeating the virus
6	[17]	Population	phone-based survey	6.9 (SD:1.65)	There is a good level of knowledge in the population
7	[18]	Students (Amhara)	Questionnaire	284 (69.6%) (95% CI 65% 74.3%)	Overall good knowledge was below the WHO recommendation scores.
8	[19]	Nurses	Questionnaire	307(74% ( with CI; 70 to 78.1)	Nurses had good knowledge which is vital to defeat the virus
9	[20]	Patients visiting JMC	Interview	High knowledge 41.3%, Moderate (41.7%), Low (17%)	The visitors' knowledge was modest to protect themselves from this highly contagious virus.
10	[21]	Population	Online questioner	5.52 ± 1.11 Range (0-7)	78.8% had good Knowledge
11	[22]	Educated individuals	Online questioner	(295/528, 55.9%)	Good knowledge
12	[24]	Health science students	Questioner	Good knowledge 25%, poor knowledge 75%)	Very poor knowledge in health science students

**Table 3:** Attitude Studies.

No	Author	Participant	Instrument	Attitude score	Result
1	[12]	Patients (chronic diseases)	Questioner	NA	Avoiding; touching face with the unwashed hand, shaking others, and attending in a crowded population were considered very easy by 222 (54.9%), 198 (49.0%), and 71 (17.6%) respondents, respectively. nearly half of the study participant afraid of contracting the virus.
2	[13]	Arba Minch Town (Population)	Online questioner	NA	However, 82.6% of study participants washed their hands frequently with soap and water for at least 20 seconds especially after who had been in a public place, or after blowing nose, coughing, or sneezing.
3	[14]	Students at Debre Berhan University	Questioner	NA	Nearly half (229 (42%)) of the students indicated that they have no concern of being infected with COVID-19.
4	[15]	Population	Telephone interview	NA	50% of the respondents either agree or strongly agree that traditional herbs and religious faith such as holy water can cure COVID-19. Half of the respondents think that it is unlikely to get sick from COVID-19.
5	[16]	Healthcare workers	Questionnaire	NA	The majority (75.6%) of respondents said that COVID-19 is a seriously dangerous disease and 69.3% perceived that they are at high risk of contracting the disease

6	[17]	Population	phone-based survey	NA	Majority believe that practicing social/physical Distancing makes difference in preventing contracting of the virus.
7	[18]	Students (Amhara)	Questionnaire	NA	230 (56.4%) [95% CI 51.2%, 61%] of college students had positive attitude in the prevention and control strategies of COVID-19 pandemic.
8	[19]	Nurses	Questionnaire	NA	The study participants had favorable attitude towards the COVID-19. and 85.3% (CI, 82.2 to 88.7) of the nurses had disturbed psychological responses
9	[20]	Patients visiting JMC	Interview	NA	77.3% of visitors had reportedly frequently washed their hands with water and soap. 90.3% avoided crowded place.
10	[23]	Southern Ethiopia population	Interview	Mean score 34.45 (±SD 5.5)	(90.3) have favorable attitude toward covid-19 and its prevention.

**Table 4:** Studies on Practice.

No	Author	Participant	Instrument	Practice score	Result
1	[12]	Patients (chronic diseases)	Questioner	NA	The prevalence of poor practice among chronic disease patients was 47.3% (95% CI (42.4–52.2%). Only 105 (25.9%) of study participants had a good practice.
2	[13]	Arba Minch Town (Population)	Online questioner	NA	336(63.3%) were didn't used face-mask when leaving their home.
3	[14]	Students at Debre Berhan University	Questioner	NA	Overall high levels of attitude and good practice toward preventive measures and responses if infected with COVID-19
4	[15]	Population	Telephone interview	NA	About 43% 265 of the respondents never practice any of the COVID-19 prevention methods and only less than 266 one fifth (19.1%) of the respondents follow COVID-19 prevention measures either usually or 267 always.
5	[16]	Healthcare workers	Questionnaire	NA	A total of 63.5% of the surveyed healthcare workers followed Correct practices regarding COVID-19.
6	[18]	Students (Amhara)	Questionnaire	NA	265 (65%) [95% CI 60, 70.1%] of college students had good level of Prevention practice regarding COVID-19 pandemic.
7	[19]	Nurses	Questionnaire	NA	278(67%) had good prevention practice
8	[20]	Patients visiting JMC	Interview	NA	Good practice
9	[22]	Educated individuals	Online questioner	NA	Overall above half (285/528, 54%) of the respondents had good COVID-19 preventive practice.
10	[21]	Population	Online questioner	3.09 ± 1.06 Range (0-6)	About 77.4% of the respondents were not obeying government restrictions, whereas; only about 22.6% of the respondents were obeying the government restriction on the COVID-19 prevention.
11	[23]	Southern Ethiopia population	Interview	NA	Majority of respondent (80%) have bad practice toward covid-19 prevention. Almost all respondent (93.3%) never used surgical mask.

Ethiopian government must give information to the society through TV, radio and social media repeatedly.

## DATA AVAILABILITY

All the datasets used to support the findings of this study are all in the text.

## ACKNOWLEDGEMENTS

I am deeply grateful to all sources of materials used for this review article and it is duly acknowledged.

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