

## Review Article

# Knowledge, Attitude, and Practice During the COVID-19 Pandemic in Ethiopia: A Review

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**Abstract:** World Health Organization declared the novel coronavirus as a global public health emergency 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 have been reported. The level of panic in peoples is associated with knowledge and attitude according to Researchers. Good Knowledge, Attitude and Practice can be used to assess the current conditions and if it is used properly it plays a pivotal role to control the spread of COVID-19. So, the aim paper was to assess/review the knowledge, attitude and perception of the population towards COVID-19 pandemic in Ethiopia. This review paper revealed that there is a gap between knowledge, attitude and practice. Therefore, the government and ministry of health must give information to the society through TV, radio and social media repeatedly because Differences in media consumption have important implications for risk perceptions and compliance with social distancing.

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

## 1. Introduction

COVID-19 pneumonia was first reported in Wuhan, Hubei Province, China, in December, 2019, followed by an outbreak across Hubei Province and other parts of the country [1]. Novel coronavirus (pandemic) was named as "Corona Virus Disease 2019" (2019-nCoV) by World Health Organization (WHO) in Geneva, Switzerland [2, 3]. So this virus is deadly third-generation virus in Corona family apart from Middle East Respiratory Syndrome (MERS) in 2012 and Severe Acute Respiratory Syndrome (SARS) in 2003. The diameter of corona virus is 65–125 nm, and contain a single strand of RNA with lengths ranging from 26 to 32 kb and it is under Coronaviridae family. Coronaviruses comprise several types, such as alpha, beta, gamma, delta, SARS CoV, H5N1 influenza A, H1N1 2009, and MERS-CoV [4].

World Health Organization declared the novel corona virus

as a global public health emergency (pandemic) on January 30, 2020 [5]. Novel coronavirus disease is a highly infectious disease, and the ongoing outbreak has affected a huge part of populations around the world. There are four levels of COVID-19 transmission according to World Health Organization, such as, no cases reported, sporadic cases, Clusters of cases, or Community transmission [6]. Public health and social measures play crucial role in reducing the number of infections and reduce death until the vaccine is ready [1].

The novel corona virus is transmitted through large droplets generated during coughing and sneezing by symptomatic and sometimes from asymptomatic patients [7]. Therefore, frequent hand-washing with soap and water and using sanitizer or alcohol is crucial. 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 have been reported [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. Knowledge, attitude, and practice (KAP) research is important to collect information on what is known, believed, and done by a specific population [11]; But in Ethiopia those types of research is not available like other countries. It is vital to know the level of knowledge, attitude, and practice of the population towards COVID-19 to contain the virus in countries like Ethiopia. Therefore, this review aimed to assess the knowledge, attitude and perception of COVID-19 pandemic in Ethiopia.

## 2. Literature Search

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

## 3. KAP Studies on COVID-19

Thirteen articles on KAP during COVID-19 in Ethiopia (Table 1). The articles used questionnaires and interview (including face to face and telephone) for data collection and 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.

### 3.1. Knowledge

Thirteen articles on knowledge about COVID-19 among health workers, hospital staff, students, and sample populations. All articles reported substantial levels of knowledge about COVID-19 in Ethiopia. A research 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.** List of articles conducted on KAP in Ethiopia.

NO.	Type of study	Participants	Number of participant	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]
		Total	7,335		

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

**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%)) 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%)	Good knowledge of healthcare workers
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%,	The visitors' knowledge was modest to protect themselves

No	Author	Participant	Instrument	Knowledge score	Knowledge result
10	[21]	Population	Online questioner	Moderate (41.7%), Low (17%)	from this highly contagious virus.
11	[22]	Educated individuals	Online questioner	5.52±1.11 Range (0-7)	78.8% had good Knowledge
12	[24]	Health science students	Questioner	(295/528, 55.9%) Good knowledge 25%, poor knowledge 75%)	Good knowledge Very poor knowledge in health science students

Knowledge, Attitude and Practice towards COVID-19 among Chronic Disease Patients at Addis Zemen Hospital revealed that the majority (70.1%) of the study participants reported that shaking hands of infected individuals result in the spread of infection. 217 (53.7%) knew touching an object or surface with the virus on it, then touching the mouth, nose, or eye transmits the virus and 337 (83.4%) knew respiratory droplets of infected individuals through the air during sneezing or coughing spreads the virus [12].

In other study, from 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].

73.6% respondents heard about COVID-19 and 42.4% and 37.8% knew COVID-19 transmission and clinical manifestations, respectively. Respondents from 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]. In another similar study 350 (88.2%) of participants had good knowledge about COVID-19 [16]. 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 in Amhara region showed that 276 (67.6%) college students said 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) [18].

### 3.2. Attitude Toward COVID-19

Knowledge is a prerequisite for establishing prevention beliefs, forming positive attitudes, and promoting positive behaviors, and individuals' cognition and attitudes towards disease affect the effectiveness of their coping strategies and behaviors to a certain extent [13]. 72% of the study participants had satisfactory attitude towards the COVID-19 and 85.3% of the nurses had disturbed psychological responses towards the COVID-19 [19]. The vast majority of the participants also held an optimistic attitude towards the COVID-19 epidemic and 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. Attitude Studies in Ethiopia.

No	Author	Participant	Instrument	Attitude score	Result
1	[12]	Patients (chronic diseases)	Questioner	NA	222 (54.9%), 198 (49.0%), and 71 (17.6%) considered it easy: Avoiding; touching face with the unwashed hand, shaking others, and attending in a crowded population. nearly half of the study participant afraid of contracting the virus.
2	[13]	Arba Minch Town (Population)	Online questioner	NA	82.6% of study participants washed their hands frequently with soap and water
3	[14]	Students at Debre Berhan University	Questioner	NA	229 (42%) 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	(75.6%) of respondents said that COVID-19 is a seriously dangerous 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 good attitude on COVID-19
9	[20]	Patients visiting JMC	Interview	NA	77.3% of visitors 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) had good attitude toward covid-19 and its prevention.

### 3.3. Practice Toward COVID-19

Articles on the practice of COVID-19 pandemic in Ethiopia is presented in table 4. Two hundred sixty-five (65.5%) study participants reported that they washed their hands with soap frequently, 71.7% of the respondents had avoided handshaking, 36.6% of the study participants used face mask, 154 (38.1%) attending overcrowded place, 224

(55.2%) didn't clean frequently touched surfaces and objects and 121 (29.9%) didn't Practice physical distance [12]. 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. Studies on Practice.

No	Author	Participant	Instrument	Practice score	Result
1	[12]	Patients (chronic diseases)	Questioner	NA	47.3% (95% CI (42.4–52.2%) had Poor practice. 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.
3	[14]	Students at Debre Berhan University	Questioner	NA	Good practice
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	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.
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	(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
11	[23]	Southern Ethiopia population	Interview	NA	(80%) have bad practice and (93.3%) never used surgical mask.

## 4. Conclusion and Recommendation

In those thirteen studies on Knowledge, Attitude and Practice towards COVID-19 in Ethiopia; there is a gap between knowledge, attitude and practice; some had good knowledge about the virus but their practice was very poor that is why COVID-19 increases alarmingly in Ethiopia. Religion in Ethiopia consists of a number of faiths and more than 96% of the population have a religion due to this the majority of people in Ethiopia believed that the cause of COVID-19 pandemic is spiritual, and it emerged due to sin. This might be one of the main reason why people didn't practice the preventive measures. The review also revealed that knowledge directly influenced attitudes. Good KAP is a tool that can be used to assess the current conditions and if it is used properly it plays a pivotal role to control the spread of COVID-19. Therefore, the following recommendations are given;

- Government and ministry of health must give information to the society through TV, radio and social media repeatedly because Differences in media consumption have important implications for risk perceptions and compliance with social distancing.
- Use of health extension workers with assignment of specific catchment population to regularly monitor

the health of the community at household level.

- Wearing mask in public and crowded places must be mandatory.

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