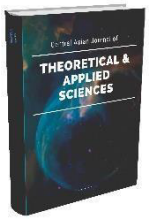

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Ethiopia's Unconventional Covid-19 Response and Corona Virus Status

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Abstract: *In the new decade of the 21st century, a new virus has emerged named severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). A large group of the virus is considered to be a Coronavirus. It is known to cause illness that varies between the common cold and more severe disease named severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). It is very epidemic, and first, it was found in Wuhan, China. This makes many lives to be threatening respiratory failure. Technological development is very important to prevent further epidemics and cure infections. Here we summarize the current information about the status of Coronavirus taking place in Ethiopia.*

Keywords: *Covid-19; Corona Virus Status; World Health Organization (WHO); RT-PCR; X-rays and C.T. scans; SARS-CoV-2.*

I. INTRODUCTION

On January 12, 2020, the World Health Organization (WHO) reported a novel source of coronavirus respiratory disease in a community of citizens in Wuhan, China's Hubei region, established by the WHO on December 31, 2019. The case fatality incidence of COVID19 is slightly smaller than that of the 2003 SARS, but the frequency is dramatically greater, with a strong total death toll. Jia Deng et al. have developed Image-Net, a large-scale hierarchical image database that can serve as a useful resource for visual recognition applications [1]. Joseph Paul Cohen has analyzed the publicly available database, i.e. the open image data collection of Covid-19, including chest X-rays and C.T. scans for developing the diagnostic tool and treatment [2]-[3]. The comparison analysis between chest C.T. and RT-PCR among 51 COVID-19 patients recommended that chest C.T. imaging test has a high sensitivity for diagnosing the COVID-19 infection and suggested that the testing methodology be improved [4]. Tao Ai MD et al. Suggested that the chest C.T. imaging test has High sensitivity for diagnosing COVID-19 after correlating the chest C.T. and RT-PCR testing results among 1014 cases from China. Ophir Gozes et al [2]. have shown that a rapidly established A.I. dependent image analysis can achieve high precision in identifying Coronavirus and quantifying and monitoring disease burden [5]. Chaolin Huang et al. have provided detailed clinical features of patients infected with COVID-19 in Wuhan, China. In addition, these data are collected and analyzed by real-time RT_PCR and next-generation sequence [6].

Yann Lecun et al. have explained deep learning for backpropagation to train multi-layer architectures with the help of CNN (Convolutional Neural Network) and RNN (Recurrent Neural Network) [7]. Zhong Qiu Lin et al. explored a more machine-centric strategy for quantifying the performance of explainable artificial intelligence (A.I.) methods on deep convolutional Neural networks to determine the importance of critical factors with the help of given techniques [8]. An artificial intelligence deep learning system identifies COVID19 and separates it from community-acquired pneumonia and other non-pneumonic lung diseases by utilizing C.T. photographs of the chest [9]. Ming Yen and N.G. Al. was presented with chest radiography. A CT observation of 21 reported COVID19 patients is identified along with a literature review of other publications documenting the radiological results of this COVID-19, as shown in figure 1[10].

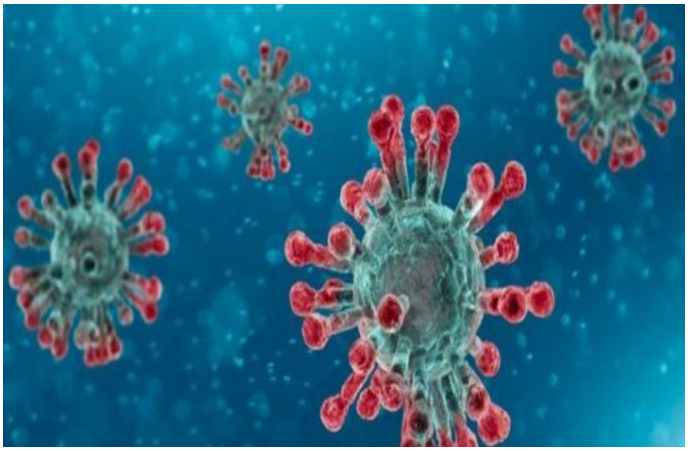


Fig. 1. COVID-19 [3]

The country's health ministry said that four Ethiopians suspected of contracting the Coronavirus had been kept in isolation [11]-[14]. The suspects who came to Ethiopia from a university in Wuhan, one of China's worst affected by the disease, were isolated after undergoing a health check-up at Addis Ababa International Airport [15]-[19].

II. CORONAVIRUS STATISTICS OF ETHIOPIA

The coronavirus disease (COVID-19) spread worldwide, with around 9.7 million cases and 491,900 deaths as of June 24, 2020 [20]-[25]. The number of infections has risen significantly in the United States since the first week of March. Ethiopia currently has more reported cases and deaths than any other country in the world [26]-[28]. All 50 states were affected, but Ethiopia has the highest death rates and registered more cases than any other nation outside the United States, as shown in figure 2.

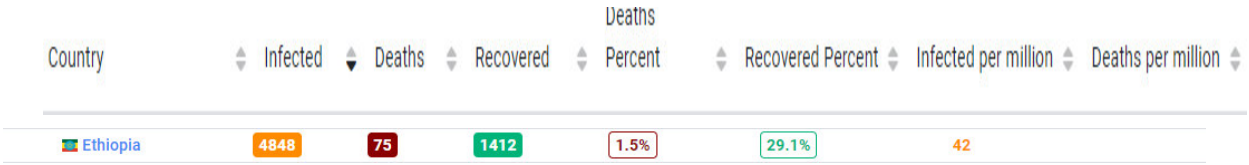


Fig. 2. Coronavirus Statistics of Ethiopia [3]

III. COVID-19 PANDEMIC IN ETHIOPIA

The World Health Organisation (WHO) reported on 31 December 2019 that a novel coronavirus is a cause of respiratory disease in a community of people established by the WHO [29]-[31]. The case-fatality level for COVID19 was somewhat lower than the 2003 SARS, but the incidence was considerably high, with a substantial overall death toll [32]-[41], as shown in figure 3.

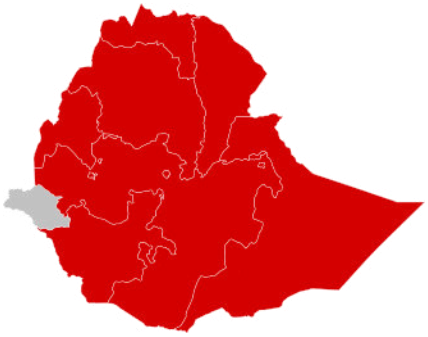
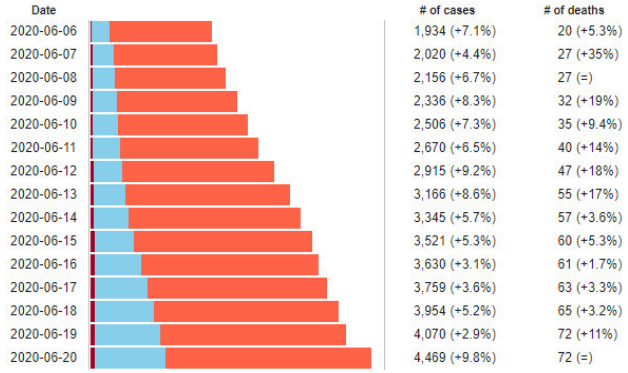


Fig. 3. COVID-19 Pandemic in Ethiopia

The World Health Organisation (WHO) reported on 31 December 2019 that a novel coronavirus is a cause of respiratory disease in a community of people established by the WHO [29]-[31]. The case-fatality level for COVID19 was somewhat lower than the 2003 SARS, but the incidence was considerably high, with a substantial overall death toll [32]-[41], as shown in figure 3.

IV. LAST 15- DAYS UPDATE IN COVID-19 CASES IN ETHIOPIA

There are no known active cases of COVID-19 left in Ethiopia [42]-[51]. There have been 1,934 cumulative cases to date, with 4,469 cases now considered resolved and 72 deaths. ON TUESDAY, the QEII Health Sciences Centre's microbiology lab completed 333 Ethiopia tests. The lab is operating 24 hours a day [52]-[59]. Two people previously had COVID-19 who are still in hospital, but their cases are resolved. The Ethiopia Health Authority's COVID-19 map for June 24. There are currently no known active cases left in Ethiopia [60]-[65]. This map shows the cumulative cases in different regions of the province, as shown in figure 4.



Date	# of cases	# of deaths
2020-06-06	1,934 (+7.1%)	20 (+5.3%)
2020-06-07	2,020 (+4.4%)	27 (+35%)
2020-06-08	2,156 (+6.7%)	27 (=)
2020-06-09	2,336 (+8.3%)	32 (+19%)
2020-06-10	2,506 (+7.3%)	35 (+9.4%)
2020-06-11	2,670 (+6.5%)	40 (+14%)
2020-06-12	2,915 (+9.2%)	47 (+18%)
2020-06-13	3,166 (+8.6%)	55 (+17%)
2020-06-14	3,345 (+5.7%)	57 (+3.6%)
2020-06-15	3,521 (+5.3%)	60 (+5.3%)
2020-06-16	3,630 (+3.1%)	61 (+1.7%)
2020-06-17	3,759 (+3.6%)	63 (+3.3%)
2020-06-18	3,954 (+5.2%)	65 (+3.2%)
2020-06-19	4,070 (+2.9%)	72 (+11%)
2020-06-20	4,469 (+9.8%)	72 (=)

Fig.4. Last 15- Days Update In COVID-19 Cases in Ethiopia

V. CONFIRMED CASES OF ETHIOPIA

Since 141 new COVID-19 positive cases were affirmed on Wednesday, the Ethiopian Ministry of Health said, the affirmed COVID-19 cases came to 5,175 [66]-[70]. In an explanation delivered on Wednesday, the Ethiopian Ministry of Health detailed that out of a sum of 4,848 symptomatic tests performed during the most recent 24 hours, 141 of these tests had been positive for COVID-19. Moreover, the Ethiopian Ministry of Health revealed 139 of the latest affirmed cases are Ethiopian residents, while others are outsiders [71]-[74]. It was noted that a two-month-old kid is among the most recent fruitful cases. The Ministry further said that 4,848 patients who were tried positive for COVID-19 had so far recuperated from the infection, wherein 1,412 patients recuperated during the previous 24-hours time frame [75]. The Ministry said three more COVID-19 patients capitulated on Wednesday, at last bringing the all outnumber of COVID-19 related passing in the East African country to 81 [76]-[97]. Ethiopia listed Coronavirus Cases as 4,848, then Death to be 75, and the recovered patients are to be 1412, as shown in figure 5.

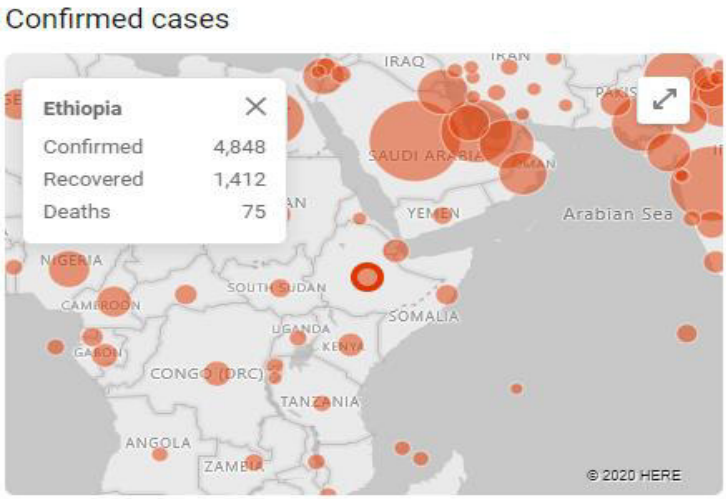


Fig.5. Confirmed Cases of Ethiopia

VI. TOTAL CORONAVIRUS CASES IN ETHIOPIA

The total Coronavirus (COVID-19) cases in Ethiopia has increased to 389, as shown in figure 6.

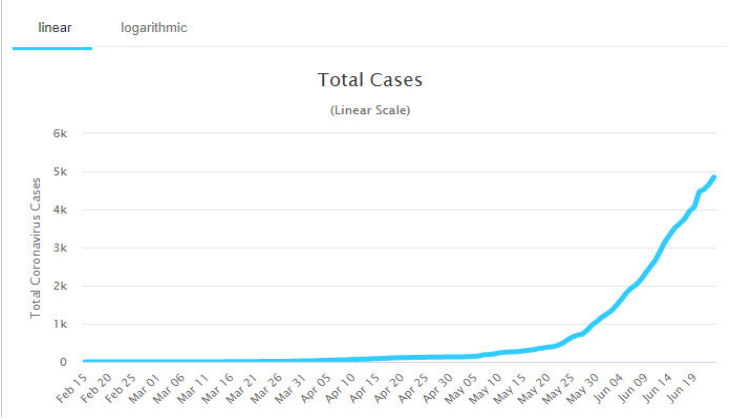


Fig.6. Confirmed Cases of Ethiopia

What to do if you have the symptoms;

- If you have travelled to Ethiopia/an affected area recently or have contacted someone who has, immediately call.
- Maintain effective self-isolation at home and with others.
- Report to a health facility and inform them regarding your travel history.

VII. DAILY NEW CASES IN ETHIOPIA

Ethiopia records the greatest daily increase, as confirmed by 142 new cases of COVID-19, as shown in figure 7.

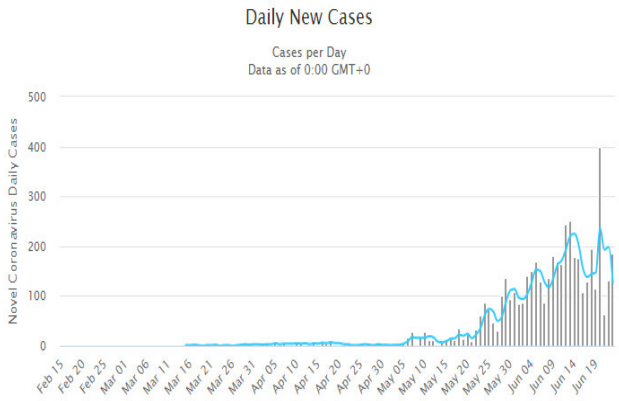


Fig.7. Daily New Cases in Ethiopia

In an articulation given on Wednesday, the Ethiopian Ministry of Health declared that out of all out of 4,120 clinical trials performed inside the most recent 24-hour time span, around 142 of them were tried positive for COVID-19, in the long run acquiring the all outnumber of cases the country to 1,486 as of the period showed [98-115]. The Ethiopian Ministry of Health further detailed that while 140 of the latest affirmed cases were Ethiopian residents, the leftover two were Portuguese and Djiboutian residents, with an age scope of seven to 78 years. The Ministry additionally showed that from the most recent 142 COVID-19 positive cases, somewhere in the range of 126 were recognized in the Ethiopian capital Addis Ababa, which is viewed as the hotbed of COVID-19 diseases in the country [116-129]. The Ethiopian Ministry of Health likewise expressed that 246 patients who tried positive for COVID19 have so far recuperated from the infection, wherein 15 of the patients recuperated during the last 24hour period. The Ministry additionally uncovered that three COVID-19 patients, including 71-year-old females, 46 years of age and 40 years of age guys, prevailed in the infection on Wednesday, in the long run rejuvenating the illness [130-147].

VIII. ACTIVE CASES IN ETHIOPIA

Ethiopia: active cases of COVID-19 Cases Exceed 5 000, as shown in figure 8.

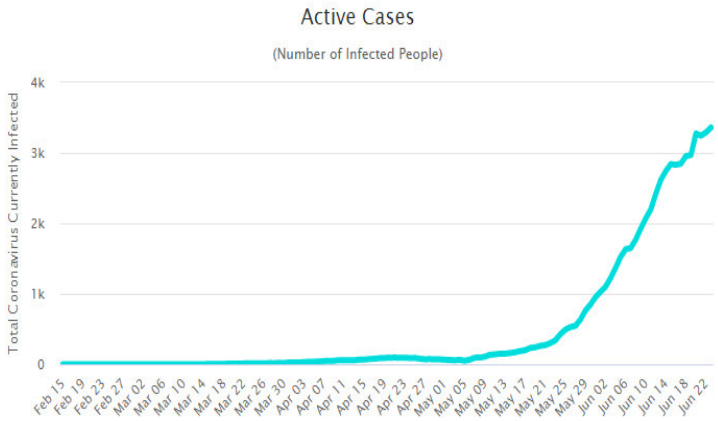


Fig. 8. Active Cases in Ethiopia

Ethiopia's active cases reported 186 more coronavirus infections on Wednesday, bringing the number of confirmed cases to 5 034 [148-167]. The Ministry of Health said it has tested at least 4034 people for COVID-19 in the past twenty-four hours and registered 113 female and 73 male patients in its daily report [168-175]. All except five are Ethiopian citizens, ranging from 6 to 75 years. The Ministry's report does not state the nationalities of the foreigners. Addis Ababa, the epicentre of COVID-19 in the country, recorded most of Wednesday's cases after authorities identified 147 patients and three deaths. The Ministry has also registered three coronavirus-related deaths over the past 24 hours [176-187]. Somali region reported two deaths while one registered in Addis Ababa. According to the Ministry of Health, this has brought the death toll in Ethiopia to 78. Currently, there are 3 468 active cases in the country. According to the report, of these, 38 patients are in severe conditions [188-197]. To date, Ethiopia tested 227 375 individuals for the virus. The country confirmed 5 034 cases, and of these, 1 486 have recovered from the disease.

IX. Total Deaths in Ethiopia

Ethiopia's Crude death rate, as shown in figure 9.

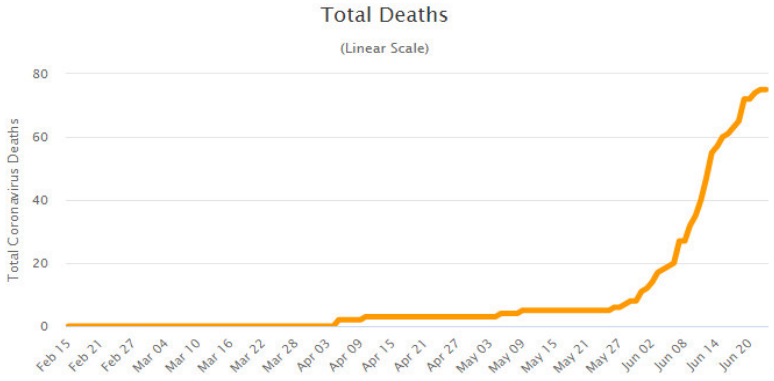


Fig. 9. Total Deaths in Ethiopia

The mortality rate for Ethiopia was 6.4 per 1,000 populations in 2019. The mortality rate in Ethiopia slowly fell from 21.3 per 1,000 populations in 1970 to 6.4 per 1,000 in 2019. Crude death rates reflect the number of deaths that occur during the year, measured at midyear for every 1,000 populations. By subtracting the crude rate of Death from the crude rate of conception, natural growth is estimated.

X. DAILY DEATHS IN ETHIOPIA

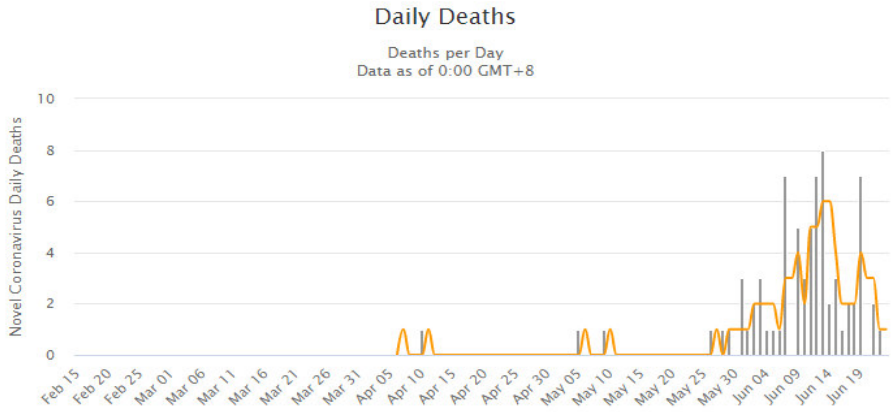


Fig. 10. Daily Deaths in Ethiopia

The Ministry's report claims seven people have died due to COVID-19 in the past twenty-four hours. According to the report, a four-month male patient from the Harari region has been registered as the youngest to die due to the virus in Ethiopia to date. An 85-year-old male patient from Addis Ababa is the oldest of the seven patients that passed away. Addis Ababa registered four deaths in terms of the location, while the rest reported from Harari, Dire Dawa and the Somali region. According to the Ministry, all except two have died in COVID-19 treatment centres. The remaining two tested positives after forensic investigations were conducted on dead bodies. Currently, there are 2 969 active cases in Ethiopia. Of these, 32 are in severe conditions, according to the Ministry, as shown in figure 10. Ethiopia is in the seventh stage of COVID 19. To recover from the Coronavirus, it is necessary to wear face masks, social distance should be practised, and gathering more people should be strictly avoided in public places. Also, spitting in public places should be prohibited.

Hand sanitizers should be used. In hospitals, medicines, and laboratories, things are delivered by drones. This is the fastest and safe method. This will reduce the risk of medical staff. People are struggling to buy their basic needs. Grocery delivery companies like Big Basket deliver vegetables at home so that people can stay in the home. Drones are also used to broadcast information about lockdown measures in the street. In agriculture also, drones are used to increase the production and growth of the crop. Agricultural drones allow farmers to see their land from the sky. Also, the drone can take the survey in crops for the farmer cultivate periodically to their liking. It is used to spray pesticides so that farmers can stay inside the home and reduce the risk of formers. Doctors can monitor the Coronavirus affected people through phones by staying in their place. Doctors can monitor the patients through mobile phones by connecting credit card-sized portable labs. To use this, the patient connects the plastic chip to their mouth, and the information is automatically connected to the doctor's office through a custom app that gives accurate results. People who are working in software companies are now working in their homes. They update

their work to managers and HR., so they do not need to go to the office and stay at home.

XI. CONCLUSION

Finally, it is too early to evaluate the pandemic reaction of Ethiopia and other African nations since policymakers do need to speed up their attempts to tackle the imminent "upsurge" process of the epidemic. The COVID-19 strategies of African governments must consider the local background, the evolving complexity of the pandemic, binding financial limitations and limited international cooperation.

Conflicts of Interest: The authors declare that they have no conflicts of interest to report regarding the present study.

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