Bangladesh Journal of Bioethics

Published by: Bangladesh Bioethics Society
https://bjbio.bioethics.org.bd/index.php/BJBio/index
ISSN: p2226-9231 e 2078-1458
BJBio 2022; 13(2):7-23
Submitted:15.01.2022
Accepted: 12.04.2022
Published:01.07.2022

Original Article

Africa's Response to COVID-19 Pandemic and Guiding Ethical Principles

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https://doi.org/10.62865/bjbio.v13i2.39

Abstract: This paper explores Africa's response to the COVID-19 pandemic and some ethical principles that can be used to address the problem of COVID-19. The COVID-19 pandemic affects all human beings in the world, but not equally. Developing countries are more vulnerable to the COVID-19 crisis. Humanity should act collectively to deal with this crisis. It should search for both indigenous and modern medicines to combat the COVID-19 pandemic. Besides science and technology, humanity should adopt ethical principles, such as the precautionary principle, solidarity, principles of respect for persons, beneficence, nonmaleficence, reciprocity, justice, proportionality, accountability, transparency, and communalism to effectively combat COVID-19. This paper further suggests that pharmaceutical companies should prioritize the well-being of the people, rather than trying to make unnecessary and unreasonable profits in the global fight against the COVID-19 pandemic.

Keywords: Africa, COVID-19, coronavirus, ethical principles, ubuntu ethics

Introduction: The novel coronavirus disease 2019 (COVID-19) has continued to be one of the world's most serious health challenges. The philosophy of neoliberalism, which emphasizes that free markets can address all problems has not fully dealt with this pandemic[1]. The neoliberal agenda of healthcare reform has had long-term public health impacts since 1980. Among other measures, deregulation has been considered a cost-effective strategy for promoting economic growth[2]. "Cost-effectiveness" analysis has been used to fight against excess capacity in any area, such as hospitals. The application of "cost-effective" government policies in healthcare for many years in different countries undermines the global response to the current outbreak of COVID-19. The major reason is government budget-cutting for several years[2]. So, the tension is between neoliberalism and health policy. However, this does not refute the fact that sometimes deregulation is positive. Too much regulation, for example, can inhibit employment for the poor. But certainly not

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zero regulation. Market forces alone cannot help humanity to respond to the COVID-19 crisis. Certain ethical principles should guide state and public system interventions to combat the pandemic. But state intervention should be guided by ethical principles. As I will show later, in addition to science, governments can rely on ethical principles in the fight against COVID-19.

Methodology: I have drawn on ethnography and ethical analysis to elicit relevant responses to the COVID-19 pandemic.

Africa's Response to the COVID-19 Pandemic: The first case of COVID-19 was identified in Egypt on February 14, 2020, within Africa[3]. The pandemic has spread to Nigeria, Algeria, South Africa, and other African countries within three months. The first wave of the COVID-19 pandemic peaked in July 2020. The second wave of COVID-19 in Africa started at the beginning of December 2020[3]. The third wave of the COVID-19 pandemic hit Africa in early June 2021. As of 14 February 2022, Africa has reported more than 11, 369,166 confirmed cases of COVID-19, 251,666 deaths, and 10,741,627 recoveries[4]. The actual number of COVID-19 cases and deaths in Africa is not known because of limited access to healthcare facilities and services, under-reporting, and cultural factors.

African governments started to deal with the spread of COVID-19 in February 2020. On 22 February 2020[5,] African health ministers adopted the Africa Joint Continental Strategy for COVID-19. Consequently, the Bureau of the Assembly of African Union (AU) Heads of State and Government endorsed this continental strategy[3]. The African Union Commission and the Africa Centers for Disease Control and Prevention (Africa CDC) launched the partnership to Accelerate COVID-19 Testing (PACT): Trace, Test & Track (CDC-T3) on April 21, 2020[5]. It is to be recalled that the African Union established the Africa CDC in January 2016, and launched it on 31 January 2017[6] after the 2014-2016 Ebola virus epidemic to deal with infectious diseases in Africa.

African Union's intervention in the fight against the COVID-19 pandemic has strengthened multilateralism and solidarity[7]. It develops different policies and assists its member states in the fight against COVID-19 on the African continent. However, not all member states fully implemented the Africa CDC's guidelines on responding to the COVID-19 pandemic. Limitations on resources and the lack of competent qualified personnel constrained the activities of the AU.

Individual African countries have taken various measures to stop and combat the spread of COVID-19 including the closure of places of worship, communal prayer, suspending social gatherings and communal prayer, postponing or cancelling major cultural or sporting events, closing markets, suspending internal flights, closing borders, grounding commercial flights from severely affected countries, requiring people to stay at home, social distancing, curfews and the like, particularly during the first wave of the COVID-19 pandemic.

Some African countries imposed partial or full lockdowns during the first wave of the COVID-19 pandemic. For instance, South Africa implemented one of the most comprehensive lockdowns anywhere in the world. On March 23, 2020, the South African government announced a three-week lockdown in South Africa[8]. Zimbabwe took a similar measure in April 2020[8]. Sierra Leone imposed a three-day lockdown to suppress the spread of COVID-19[9]. Nigeria imposed a full lockdown in the cities of Lagos and Abuja[10]. Ethiopia closed all schools, religious institutions, and borders, and

declared a state of emergency without resorting to drastic lockdown[11].

With the spread of COVID-19 in China, certain African airlines, except Ethiopian airlines, halted direct flights to and from mainland China. From April to May 2020, flights between 40 AU member states and other countries were banned[12]. Probably, this measure reduced average daily case growth in these countries. There were partial lockdowns in Senegal[13], the Democratic Republic of the Congo[13], and Ghana[9]. Rwanda introduced a two-week quarantine period for all travelers arriving from abroad from March 21, 2020[14].

Physical distancing is difficult in urban slums and other informal settlements in many African countries. Implementing self-isolation in overcrowded informal settlements is very challenging. In other words, social life is emphasized in Africa and it has been very difficult to ensure compliance with COVID-19 prevention and control measures.

Moreover, frequent handwashing is very difficult in rural areas and densely populated urban slums in Sub-Saharan Africa due to a lack of clean running water, sanitation, and soap. In 2017, 370 million Africans did not have access to basic handwashing facilities[15]. In 2017, 43 million people in Ethiopia did not have handwashing facilities. During my recent visit to western Ethiopia, I noticed that some communities in Ethiopia have taken innovative measures, such as preparing homemade masks, using the solution of an *endod/andoode* (Phytolacca dodecandra) tree, and other local hand sanitizers where there is water and soap scarcity.

It was clear from the outset that a full-blown economic lockdown would not provide a lasting solution. COVID-19 lockdown hits the poorest sections of the people in Africa. The expansion of COVID-19 has also negatively affected the economies of African countries, as the price of nearly all commodities has been decreasing because of the economic decline caused by lockdowns and the pandemic. As a result, many African countries have eased lockdowns and physical distancing measures. Correspondingly, the COVID-19 lockdown has suppressed the world economy, thus threatening lives across the globe.

Continued lockdown in African countries forced them to postpone their mass immunization campaigns that in turn led to outbreaks of measles, monkeypox, cholera, HIV/AIDS, malaria, and tuberculosis[16]. Border closures have also had a negative impact on tourism in Africa.

Thus, the important lesson to be learned from the preliminary preventive measures is that governments should be very careful when they impose strict containment measures. Strict coronavirus lockdowns requiring all individuals to stay at home for an extended period and imposition of extensive quarantines can have negative impacts on the poorest and most vulnerable populations (the people engaged in the informal economy, lower-income workers, daily labourers, children, malnourished people, the homeless, prostitutes, illegal migrants, forcibly displaced refugees, the elderly poor, people with disabilities, stateless people, etc.). Africa cannot afford to confine hundreds of millions of people to their houses for many days without strong alternative measures. Starvation and death will be the outcome of mass quarantines in Africa, as most of the population are daily labourers. Most Africans lack the social protection and stimulus packages that people in rich countries have to deal with COVID-19. It is worth noting that some vulnerable people have been starving in developing and developed countries because of strict containment measures[17]. Many people are confined to their own homes and welfare centers were closed.

Therefore, before imposing strict lockdown measures, countries should design alternative means of survival and appropriate delivery mechanisms.

On the other hand, post-traumatic stress symptoms, confusion, and anger are the possible negative psychological consequences of quarantine[18]. Lockdowns have also accelerated domestic sexual harassment around the world[19].

The political use of COVID-19 is another serious problem in the world. Politicians in different parts of the world are trying to use COVID-19 against their political enemies. In Italy, New York, and elsewhere, the deaths of many people who died from other causes have been attributed to COVID-19 for political reasons. Such inflated death statistics have hindered the lifting of lockdowns, which have dampened the economy and reduced the likelihood of re-election of incumbents during the first web of COVID-19. It is also true that in some cases incumbents have used COVID-19 to suppress opposition groups[20]. On a positive note, countries can use COVID-19 to accelerate the process of change through national and global cooperation.

There have been some attempts to use indigenous medicines for the prevention and treatment of COVID-19 in Africa[21]. For example, the Malagasy Institute of Applied Research in Madagascar developed and produced COVID-Organics or CVO. It is an anti-coronavirus herbal drink or tea made from the plant *Artemisia annua*. The herbal ingredient of the drink, Artemisinin, has been used to treat malaria[22]. *Artemisia afra* is used in Africa to treat symptoms of respiratory disease[23]. Chinese people have also used it to treat malaria for thousands of years[24]. Madagascar's President Andry Rajoelina reports that taking COVID-Organics for one day can control chronic conditions and improve the health conditions of COVID-19 patients from the virus. They will recover after 5-10 days of drinking. President Rajoelina states that Madagascar is in the process of launching COVID-Organics capsules[25]. However, CVO does not appear to have prevented the deaths of COVID-19 patients in Madagascar. To date, Madagascar has recorded 65,009 COVID-19 cases with 1398 confirmed coronavirus-related deaths and 63,611 recoveries[26].

Despite the claims of Madagascar's President, it would be useful to conduct a clinical trial on the herbal tonic and prove the efficacy and safety of the plant according to scientific protocols before recommending it for wider use in Africa and other places. Therefore, indigenous medicine should be tested for efficacy and safety (adverse side effects). It could give people a false sense of security and could have negative consequences if we don't have strong evidence about its efficacy and safety. More research needs to be done.

Various African Institutes and researchers have used their meager resources to understand the coronavirus and help people. Among other things, Senegalese researchers at the Institut Pasteur De Dakar (IPD) have developed a rapid one-dollar coronavirus diagnostic test kit[27]. Unlike other developing countries, Senegal has enough cheap diagnostic test kits. The Malagasy Institute of Applied Research and the IPD set a very good example for other health institutes and researchers in Africa. They demonstrate that African scientists and indigenous people can contribute to the world in various fields.

Although there have been some attempts, Africa has not been able to produce its COVID-19 vaccine. It has relied on the COVAX initiative, a progrmme led by Global Alliance for Vaccines and Immunization (GAVI), the Vaccine Alliance, the Coalition for Epidemic Preparedness Innovations (CEPI), and the World Health Organisation (WHO), and donations from rich nations to vaccinate its

people. However, Africa is at the bottom of the COVID-19 vaccination curve. It cannot buy enough doses to vaccinate its populations. By March 17, 2022, only 15% of the adult population were fully vaccinated in Africa[28]. Rich countries have wanted to buy up all COVID-19 doses they can to vaccinate their citizens against the principle of equitable access to vaccines. The causes of low COVID-19 vaccine coverage in Africa include poor infrastructure, increased global demand for vaccines, lower-than-expected vaccine supply, the availability of short-lived vaccines, low vaccination capacity, and/or acceptance[16]. Hesitation about the importance of a COVID-19 vaccine is another reason for the low COVID-19 vaccine coverage in Africa. A lot of misinformation about the COVID-19 vaccine has been circulating.

In what follows, I will discuss certain ethical principles that can be used to combat the COVID-19 pandemic.

Guiding Ethical Principles: A combination of ethical theories, such as virtue ethics, utilitarianism, deontological, and indigenous ethics can help in the response to the COVID-19 pandemic. Virtue ethics teaches that a person of good character should do the right thing[29]. For utilitarianism, doing good for the most people is morally right and acceptable. The results of our actions and policies determine what is right or wrong[30]. Healthcare workers, politicians, and executives may rely on it when they have to make decisions in a very difficult situation. Deontological ethics teaches that human beings have a duty to follow rules. In his second formulation of the Categorical Imperative, Immanuel Kant stresses that human beings are ends in themselves and should not be treated as a means to other ends[31].

Tom Beauchamp and James Childress developed four principles of biomedical ethics that serve as the guides to decision-making in modern bioethics: beneficence, nonmaleficence, justice, and respect for autonomy[32]. Under the duty of beneficence, the physician's ultimate goal should be to do what is best for the patients. The principle of nonmaleficence demands that physicians should avoid harm. Maximizing potential benefits and minimizing risks is the ultimate goal of these two principles[32]. They are not at variance with the utilitarian tradition.

Deontological ethics is based on the principle of respect for autonomy. The principle of autonomy emphasizes the freedom for self-governance or personal freedom, informed consent, and the principle of confidentiality[32]. The fair distribution of medical goods and services, benefits, and burdens is the primary concern of the principle of justice.

Some of the above-mentioned ethical principles and other relevant ethical principles are briefly discussed as follows. The principles of the precautionary principle, solidarity, human dignity, and human rights are considered by their advocates to apply to all areas of life. There are not in all cases specific principles of bioethics that correspond to them for bioethical contacts, but principles such as the precautionary principle and solidarity are usually understood as applying to bioethical contexts just as much as to environmental ones and human rights ones.

1. Precautionary Principle: The Precautionary Principle guides healthcare workers to intervene and reduce unintended disasters where there is a lack of full scientific certainty. For the COVID-19 pandemic, this principle encourages the public and healthcare workers to take reasonable precautions promptly. All individuals should take precautions to stay away from crowded areas. The application of this principle could have prevented many deaths. The Precautionary Principle

is needed for the purposes of bioethics because there are bound to be cases where there is good reason to credit risks about which there is not yet full scientific consensus, and yet where action needs to be taken to prevent these risks coming about.

2. Solidarity: All human beings depend on each other and share many things in common. COVID-19 and other infectious diseases do not respect national boundaries. All human beings are vulnerable to COVID-19. So, global health solidarity is required to defeat a shared threat. Labeling foreigners as disease carriers is wrong and should be challenged, and governments and citizens should protect the well-being of foreigners in their respective countries. Furthermore, we need to avoid discrimination and stigma against people who are sick with COVID-19.

The principle of ecological solidarity asserts that humans, nonhumans, and ecosystems are interconnected[33]. It should be noted that Ebola virus disease (EVD) has already killed human beings, chimpanzees, and gorillas in central Africa. A 1994 study reported that a new subtype of the virus, EBO (subtype Côte d'Ivoire [EBO-CI]) killed 8 chimpanzees in the Tai National Park, Côte d'Ivoire[34]. Likewise, in 2003, the Ebola virus killed 114 people and 800 western lowland gorillas in the Republic of Congo[35]. During the 2002-2003 outbreak, the Zaire Ebola virus (ZEBOV) strain also killed around 5,000 gorillas in Congo and Gabon[36].

Likewise, some recent studies have shown that certain animals, such as dogs in Hong Kong[37], cats in Belgium, the United States, and China[37], and tigers and lions in a U.S. Zoo tested positive for COVID-19[37]. It has been confirmed that sick owners have infected their pets in different parts of the world. Despite these preliminary findings, there has been no conclusive evidence that COVID-19 can spread from animals to humans.

As some writers have pointed out, the zoonotic threat has not received enough attention during the time of COVID-19[37]. Human health has always been the primary concern of health professionals. Further studies should be carried out to confirm that animals have a role in the spread of SARS-CoV-2. If science confirms the transmission of COVID-19 between different species, human beings should take urgent measures to reduce biodiversity loss in the world in the years to come because of the expansion of COVID-19 and Ebola. They should work hard to fight these deadly epidemics to save Mother Earth.

Another serious problem during the COVID-19 pandemic is illegal wildlife poaching in Africa. Poachers have killed wild animals in recent months for bushmeat and to traffic wildlife parts. If this activity continues without urgent measures to protect wild animals by the concerned governments, it will have negative impacts on the future of wildlife.

Furthermore, I would argue that foreign policy should not meddle in health policy. The policy of the United States of America to punish other nations through the use of sanctions during this international health emergency is herewith condemned. Sanctions against Iran, Cuba, and other countries must be removed to save human lives in sanctioned territories and prevent the spread of the virus internationally.

3. Human Dignity and Human Rights: All measures to be taken in the fight against COVID-19 should focus on human rights, especially the rights of the poorest sections of society. But human rights can be overridden in some instances, where other principles such as the Principle of Distributive Justice supersede them. For example, a rich person's right to property could be superseded if the needs of the

poor for medical treatment required taxation to fund medical facilities.

4. Distributive Justice: The term distributive justice reveals that the norms that constitute the conditions of social cooperation determine the fair, just, and appropriate distributions of benefits and burdens[38]. Similarly, the principle of distributive justice requires that medical resources be distributed most efficiently and fairly and that medical practitioners treat equal cases equally[39]. But when a pandemic pushes the health system beyond its capacity to serve everyone, healthcare workers should rely on pre-established health policies, national guidance, and prioritization plans. The multidisciplinary team of healthcare workers should make difficult decisions, for example, about the allocation of intensive therapy unit (ITU) beds, ventilators, dialysis machines, and extracorporeal membrane oxygenation (ECMO).

According to our current knowledge, those aged over 70 or under with certain underlying health conditions, such as people living with HIV, who are not yet accessing treatment, people who have cardiovascular disease, diabetes, chronic respiratory disease, and cancer, people with obesity and hypertension and children with malnutrition are most vulnerable to COVID-19[40]. However, the elders constitute a treasure trove of knowledge and experience that is unique among their respective populations. It is disturbing that some Italian hospitals adopted policies not to resuscitate these elderly people or leave them out in the hallway to die during the first wave of COVID-19 in the country. Age was given primary attention in allocating scarce medical resources. Consider what one Italian doctor said: "[t]here is no way to find an exception. We have to decide who must die and whom we shall keep alive"[41].

Given the knowledge and experience, these people represent, a special priority needs to be assigned to saving them. They must not be considered dispensable in comparison with the young who have less experience and less knowledge and less wisdom. The following African proverb indicates the value of elders in Africa. "When an old man dies, a library burns to the ground." So, Africans value wisdom and take care of their elders.

It can be objected that when two patients have the same needs and survival probabilities with a large age gap, a younger patient should be given priority over an older patient because the younger patient has a higher chance of having more years of life overall than the older patient. But what can be done if the old patient has many children and his death will affect their future survival, as s/he is the only breadwinner in the family? Where can one draw a line? If a physician has only one ventilator and is required to give it either to a grandfather or a grandson, the grandfather can decide to die for the sake of his/her grandson, as his decision will have long-term consequences for the latter. The physician may accept or reject this proposal. Younger patients are more likely to have young dependent children.

Another question is: how do we select patients who are of the same age and whose ethically relevant characteristics are indistinguishable? One possible answer is that both patients should receive equal consideration for scarce medical resources, through a lottery. Most people can take this advice.

It can still be argued that if the older patient is an accomplished physician or scientific researcher, s/he should be given priority over the older patient because s/he has more value to society. If the physician is given the ventilator to treat COVID-19, this medical intervention will save his life and enable him/her to save other lives in the future. From a utilitarian point of view, if we save more frontline healthcare workers, they return to the community, and

they can help and fight this pandemic. In this case, more value is given to quality rather than to quantity. This recommendation can be defended "on two grounds: because they have exposed themselves to heightened risk to help others (a matter of reciprocity) and because they could continue to assist in the COVID-19 response (a matter of utility) after recovering"[42]. One can still reject this view on the ground that if the younger patient is given the ventilator, s/he will have the potential to serve his society in the future although there is no guarantee that this will be feasible. So, this is the most difficult ethical issue.

4. Ensuring Fair and Equitable Care: All patients with COVID-19 should be treated without any discrimination. But in some cases, physicians may give priority to those with the best chance of surviving.

The WHO suggested that countries should receive COVID-19 vaccine proportional to their populations. However, a group of international researchers persuasively says that this population model is unacceptable, as the pandemic has not equally affected all countries. They suggested that countries, organizations, and vaccine producers should use the Fair Priority Model to allocate a COVID-19 vaccine among countries[43]. This model is expected to help countries to reduce premature death and the long-term health impact of COVID-19 infection. According to the above-mentioned researchers, fair distribution of a COVID-19 vaccine should be guided by three values: "benefiting people and limiting harm, prioritizing the disadvantaged, and equal moral concern"[43]. These three basic values can help people to reduce the number of premature death, mitigate economic and social harm, and reduce unemployment and poverty. Although the three-phase plan seems to be useful, it won't be easy to identify countries that should be given priority. It requires the moral leadership of governments and international institutions. Political leaders are required to support the ethical allocation of scarce healthcare resources in the battle against COVID-19. Wealthy countries cannot afford to monopolize the COVID-19 vaccine and ignore poor countries in the world. Many African countries cannot make COVID-19 vaccines available for all people within a short period of time, as they are expensive and well beyond their purchasing power. The same thing happened in Africa regarding HIV drugs. Africa was the last to get affordable antiretroviral medicines in the past[44]. To achieve herd immunity, African governments aspire to get sufficient doses of COVID-19 vaccines. So, wealthy countries ought to assist low and middle-income countries to benefit from the new COVID-19 vaccines. In the meantime, poor countries should continue to implement a variety of COVID-19 preventative and mitigation measures. The people of those countries should also comply with public health protocols to reduce the devastating effects of COVID-19. There are no other alternatives.

5. Proportionality: The principle of proportionality states that medical interventions and risks should not exceed the level of the threat. It helps us to understand whether the harm done is necessary and is not disproportional to any anticipated benefits.

6. Beneficence: The ethical principle of beneficence demands that all patients regardless of their background (e.g., disability), race, ethnicity, citizenship, socio-economic privilege, political rank, immigration, and insurance status should be given emergency care. It emphasizes the need for the protection of human life.

7. Reciprocity and the Moral Responsibilities of Physicians: Doctors must protect the public from harm. They should also be held accountable for their decisions and actions. According to Peter Angelos, without appropriate personal protective

equipment (PPE), physicians are not responsible for providing care to their patients[45]. I agree with Angelos and believe that a physician has the right to refuse to treat his/her patient if the resources and other conditions necessary to provide care are not met. The relevant hospital or health center has a reciprocal obligation to ensure the safety of its physicians, nurses, and other healthcare providers who put themselves at risk for the common good. Also, physicians should have a duty to take care of the health and mental well-being of patients for society's safety. Without the tools, they cannot care for their patients. Patients also need PPE to avoid transmitting the virus to others.

Although it is morally necessary for all personnel in the health setting to be shielded from harm to discharge their ethical responsibility, very often this condition cannot be fulfilled in many African and even in some developed countries. Very often many healthcare providers have been putting their life at increased risk to save others in Africa, as they haven't been able to get everything they need. In some instances, only highly skilled critical frontline healthcare professionals may be given priority.

8. Balancing Cultural and Public Health Values: Local rituals, particularly in Africa, are incompatible with the nature of global pandemics, such as Ebola virus disease and COVID-19. People's performance of "dignified" burial rituals will increase the risk of contagion[46]. Some families in different parts of Africa have broken social distancing guidelines during funerals. People sing at funerals, share food and water, wash hands in one basin after the funeral and sit close to each other[47].

Certain traditional and religious practices among West African communities have accelerated the spread of Ebola in West Africa. The WHO stressed that traditional burial practices contributed to nearly 60% of all Ebola cases reported in Guinea[48]. In particular, the washing and cleaning of the dead body have contributed to the spread of Ebola in West Africa[49]. Certain people also lay over the corpse of a deceased traditional healer or another prominent figure in the belief that they will receive spiritual gifts from the latter[50]. These funerals and burial practices contributed to the spread of Ebola[51]. Similar burial rituals in Uganda contributed to the spread of Ebola during the 2003 outbreak [52].

Similarly, in Port St Johns, Port Elizabeth, and Mthatha in the Eastern Cape Province in South Africa, 80% of all COVID-19 infections were due to burial practices[53]. Sitting close to each other and touching surfaces during Church services in the Free State in South Africa also led to new infections of Church leaders and lay preachers who attended the prayer meetings[47].

Like other African cultural groups, the Oromo, the biggest ethnic group in Ethiopia, consider birth, marriage, and death as the three most important things in life. They perform rituals from birth to death. In the Oromo tradition, the deceased's body should be washed and tied in the fetal position before burial[54]. The body is wrapped in cloth or perfumed plants. The bodies of the deceased ordinary citizens and dignitaries are prepared differently for burial. However, the Oromo people should not observe this burial practice during pandemics, as infection control requires the modification of cultural rituals. The Oromo have been changing their values and practices in response to new challenges and developments. If the Oromo and other cultural groups in the world are given clear information about the negative consequences of washing and wrapping the body of a person who has died from COVID-19, they will suspend some of their burial rites, compromise interfamily solidarity and accept safe and proper burial protocol. This measure is one of the most

important lessons African countries could draw from the Ebola epidemic and they could thus develop confidence and address the COVID-19 pandemic. The Democratic Republic of Congo (DRC) used this method and successfully contained the Ebola epidemic[55]. Africans should also take precautionary measures during traditional male circumcision, as it can increase the risk of infection.

Therefore, besides scientifically-based methods, a holistic consideration of other contextual factors including the influence of religious and cultural beliefs is required to combat "the spread of highly infectious diseases like Ebola"[49]. Changing cultural rituals without the consent of traditional and religious leaders is unlikely to be successful and culturally acceptable.

Unfortunately, fake news and myths around COVID-19 have affected the attempt to combat the pandemic in Africa and other regions. Wrong sources have confused people about the nature and consequences of the disease. Certain people have doubted the existence of COVID-19 and failed to take the required preventive measures in some African countries[56]. The fact that most COVID-19 patients are being cured gives the false message that COVID-19 is like ordinary annual influenza. In particular, the behavior of some people in rural Africa is likely to promote the spread of COVID-19. They do not wear masks and do not respect social distancing. For instance, although the Ethiopian government declared that a maximum of 50 persons can attend a funeral, many families ignored this regulation. Many people tend to ignore the risk of potentially permanent organ damage, the magnitude of which is yet unknown. Some cases of COVID-19 may spread silently in the community without recognition.

The Status of the COVID-19 Pandemic in Africa: Although high numbers of deaths were expected in Africa due to fragile health systems, lack of access to preventive measures, barriers to testing, and other factors, Africa has suffered a relatively low contagion and mortality rate compared to other continents in the world[57]. Different reasons have been given for lesser infections and fatalities as well as high recoveries from the COVID-19 infection in Africa such as low testing rates[58], the simultaneous use of local medicines, and other global health initiatives[21], poor reporting systems, insufficient number of health workers, and familiarity with infectious disease outbreaks[57]. After examining data from 20 selected African countries, Iwuoha and his co-authors state that the adaptation of local/herbal remedies has enabled some African countries to reduce the number of deaths and improve patients' recovery from COVID-19[21].

It can also be said that Africa is the continent with the youngest population in the world, therefore they recovered from COVID-19 in a short period[57] and reduce fatalities. However, this is not the whole story about COVID-19 in Africa. Due to a lack of adequate testing kits, Africa has not yet been able to test as many people as possible.

As I argued elsewhere, the blanket application of the principles of biomedical ethics in Africa may have negative consequences[59]. Certain ethical recommendations designed for high-income countries do not relate to poor African countries. We should pay attention to African moral values when we make decisions. For instance, the principles of privacy are not compatible with African social values. Medical ethics requires a confidential relationship between physicians and patients. It would be unethical to relate the health status of a patient to a third party without his or her consent.

Africans communicate their health status with other members of their family, as

decisions are communally based. In Africa, "secrets are kept within families but not from families"[60]. Prior knowledge of the conditions of COVID-19 patients can help their family members to take steps to protect themselves from these viruses. This fact does not mean that the principle of respect for persons is irrelevant in the African culture. The point is that we need to strike the right balance between the principle of respect for persons and the pursuit of the common good (which requires maximizing possible benefits and minimizing possible harms, to society as well as to individuals).

9. Transparency and Universal Access to Information: Governments should be transparent with their people in their decisions and actions against COVID-19. They should often provide transparent information frequently about the nature of the pandemic and their actions.

10. Global Dialogue: In addition to national responses, we need an international collaborative and coordinated response across multiple disciplines to combat COVID-19. As John N. Nkengasong and Wessam Mankoula suggest, we should act collectively and fast. One country alone cannot deal with the pandemic[61].

Rich countries should provide grants, not loans, to developing countries to strengthen their healthcare infrastructures and respond to the COVID-19 outbreak. They should donate coronavirus testing kits, personal protective equipment, ventilators, gloves, surgical masks, coveralls, hoods, medical countermeasures, and COVID-19 vaccines to least developing countries. Many developing countries have a resource-constrained healthcare system, inadequate surveillance and laboratory capacity, scarcity of trained physicians, and limited financial means. Some countries in Sub-Saharan Africa have also been struggling to use their meager resources to treat existing endemic diseases, such as human immunodeficiency virus (HIV), tuberculosis, and malaria. The diversion of resources to control COVID-19 has undermined their ability to deal with such diseases. Debt relief can help these countries deal with health problems and other development challenges and thus effectively deal with the disease.

African ethics also encourages human beings to help each other. For instance, *ubuntu* ethics teaches that human beings have a duty and obligation to support fellow human beings who need help. The word "*ubuntu*" in Nguni languages (in Zulu and Xhosa) and the term "*botho*" in the Sotho languages and the term "*huhnu*" in some of the languages of Zimbabwe have a similar meaning: humanness. In *ubuntu* ethics, a person can only be a person through other persons. I am what I am because of what we all are[62, 63]. *Ubuntu* ethics encourages human beings to look after and respect each other. It is based on mutual respect, co-responsibility, sharing, interconnectedness, and the interdependence of all living beings and the natural world. As some writers state, the solidarity manifested in Africa's response to COVID-19 implies the possibility of globalizing *ubuntu* to address global pandemics[64].

Just like *ubuntu* ethics, in the Oromo social welfare system of *Busaa Gonoofaa*, we need to help those in greater need than ourselves. So, the ethic of sharing in Oromo in Ethiopia and *ubuntu* societies is similar.

As the late Kwame Gyekye, a Ghanaian philosopher notes, a supererogatory act, which is "beyond the call of duty" is intrinsic to the African communitarian ethic[65]. Morality commends supererogatory acts where individuals pay regard to the interests of others. Many African communities appreciate and uphold the practice of going beyond the call of duty. So, African ethics emphasizes

interconnectedness and encourages human beings to stand together, share resources, support each other, and save a life during challenging times. Among other examples, I have personally observed grassroots organizations, Ethiopian youth volunteers, civil servants, and tycoons who have been raising funds and other necessary supplies for the poor and vulnerable people in Addis Ababa and other parts of the country. This response demonstrates the importance of shared responsibility and global solidarity in the age of a global pandemic.

Conclusion: COVID-19 has changed the way we live, our view of the world and our daily lives, and how we should deal with the world's health problems. Although its effects have been uneven, it has affected all nations. In addition to science and technology, human beings should apply some of the ethical principles mentioned in the preceding discussion and other related principles to combat COVID-19. Individual rights should be balanced against the community's public health needs. Critical citizens, parliaments, and constitutional courts play a vital role in checking the acceptability and ethical relevance of measures taken by the government/executives.

Deontological ethics can help us to balance peoples' rights of free movement, and the duties of governments to keep them healthy. Utilitarianism is also instrumental in promoting public health. If the people are willing to give up some of their rights for the greater good, the government should take the necessary steps to care for the sick and protect others from the pandemic. We can defend and uphold the aforementioned mitigations based on virtue ethics and deontological ethics. Asking people to stay at home whenever possible may help reduce the spread of COVID-19. One might claim that, contrary to my thesis, this practice weakens the immune system and is ineffective in mitigating the spread of the virus. For instance, Knut Wittkowski, the former head of Rockefeller University's Department of Biostatistics, Epidemiology, and Research Design held this view and criticized the way WHO is dealing with COVID-19[66]. However, during the first wave of the pandemic, failure to comply with this advice resulted in the loss of many lives in Brazil and the United States of America. The Presidents of both countries were reluctant to promote social distancing and lockdown. I believe that these measures are useful to control infection rates to some extent.

We should also oppose the use of COVID-19 to reap exaggerated profits by the pharmaceutical industry, although it would not be wrong to make profits. The pharmaceutical industry and its agents are promoting the influenza epidemic, and a false "need" for everyone in the world to get a vaccination, a drive that if successful will give them billions of dollars. It should be noted that WHO receives the bulk of its funding from private sources, primarily the pharmaceutical companies, Rockefeller Foundation, and the Bill and Melinda Gates Foundation, and the latter has become a spokesperson for "big pharmaceutical companies." It is worth noting how Bill Gates promoted the vaccines that produced sterilization in India and Africa and his openly expressed desire to reduce the world's population[67].

If one were to analyze these issues in terms of ethical theory, one might argue that utilitarian thinking is justifying unethical behaviour. So, we need to stand against the unethical behaviour of famous philanthropists like Gates. Here, I would like to point out that despite some unethical practices, the Bill and Melinda Gates Foundation supports African countries in various ways[68]. For example, it donated 20 million USD to African countries in early February 2020 to support COVID-19 mitigation efforts in Africa.

As stated earlier, humanity can also benefit from the African ethics of interconnectedness to respond to the suffering of people during the age of COVID-19. Everyone has an impact on others. Developed countries and individuals have an obligation to support the developing countries as they emerge from the coronavirus pandemic.

Furthermore, indigenous African values should also play a role in Africa's fight against COVID-19, as community-based interventions have the potential to have a positive impact. Policymakers and healthcare workers need to encourage community leaders and trained community health workers to communicate and consult with marginalized and at-risk populations and to persuade the public to take all necessary measures to prevent and control the spread of COVID-19. Religious and community leaders should educate people about the importance of traditional epidemic control measures for respiratory diseases. So, if humanity is to combat the COVID-19 pandemic in the world, raising awareness and behaviour change should be the enduring role for all relevant stakeholders. They need to debunk the myths surrounding the disease. Reciprocal trust and understanding between health officials and affected communities should be developed to combat COVID-19.

Governments need to support indigenous herbalists' search for indigenous medicines derived from natural sources that are open to scientific proof. Indigenous herbalists and scientists should work together in the search for other medicines for COVID-19 in Africa and other continents. Medical history reminds us that many medicines are derived from medicinal plants.

In the end, the response to COVID-19 requires collective global cooperation, as no single country can fight it alone. Humanity needs strong global cooperation and solidarity to combat the COVID-19 pandemic. Developed countries cannot be free from the COVID-19 pandemic by maintaining iniquitous distribution policies on historically subordinated peoples. As the great American voting and women's rights activist and civil rights leader Fannie Lou Hamer states, "no body's free until everybody's free."[69] COVID-19 has continued to mutate into new variants or strains. If developed countries continue to promote vaccine apartheid/nationalism, and ignore the people in the developing world, the virus will continue to circulate around the world for many years to come. It is not too late for developed countries to change their approach and avoid the continuation of COVID-19 for many years. Therefore, all countries should continue to cooperate in the fight against the COVID-19 pandemic.

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Acknowledgements: I would like to thank Robin Attfield, Robert Gallagher, and the two anonymous referees for their constructive comments and suggestions. I am also grateful for the generous support of the Africa Oxford Initiative (AfOx) at the University of Oxford, United Kingdom.

Author Contribution: The author designed and wrote the article.

Conflict of interest: The author has no conflict of interest to declare.

Funding: None.