

COVID-19, Bioethics, Culture and the Inequalities in Public Health Management between the Advanced and Developing Countries

Princewill Chitu Womehoma^{1*}, Ezeonu Francis Chukwuemeka²

¹National Biotechnology development Agency, Unaru Musa Yar'Adua Expressway, Federal Capital Territory (FCT), Abuja

²Nnamdi Azikiwe University, Awka, Anambra State

***Corresponding Author:** Princewill Chitu Womehoma, National Biotechnology development Agency, Unaru Musa Yar'Adua Expressway, Federal Capital Territory (FCT), Abuja.

Received date: 09 September 2022; **Accepted date:** 14 November 2022; **Published date:** 30 November 2022

Citation: Princewill CW, Ezeonu FC (2022) COVID-19, Bioethics, Culture and the Inequalities in Public Health Management between the Advanced and Developing Countries. J Comm Med and Pub Health Rep 3(09): <https://doi.org/10.38207/JCMPHR/2022/NOV030903130>

Copyright: © 2022 Princewill Chitu Womehoma. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Abstract

Applying indigenous cultural remedies through herbs to treat illnesses and diseases has been an age-long practice. Before the advent of orthodox medicine, different countries used medicinal plants indigenous to them to treat infections and conditions, and these medicinal plants proved effective. The use of medicinal plants began to gradually fade away, although not wholly when orthodox medicine was introduced and made famous by big pharmaceutical companies. The Covid 19 pandemic forced countries to look inwards at what they were used to. Africa tackled the pandemic with indigenous medicinal plants, which worked for her, making her the continent with the lowest hit by the pandemic. Even though the superpowers tried very hard to dissuade Africans from believing in what was indigenous to them, Africans braced up and fought the pandemic with indigenous African cultural herbs. The result was that the African medicinal plants worked for them. Until Africans learn to defend that which is theirs, they will continue to be colonized in different forms by the Western world. This paper highlights the usefulness of African Indigenous medicinal plants in treating various diseases.

Keywords: Africa, Bioethics, Covid 19, Culture, Public health, Traditional medicine

Introduction

The Coronavirus Disease 2019 (COVID-19) outbreak was declared a Public Health Emergency of International Concern (PHEIC) on 30 January 2020 and a pandemic on 11 March 2020. The World Health Organization (WHO) Director General requested all countries to adopt a "Whole-of-Government, Whole-of-Society" approach built around a comprehensive strategy to prevent infections, save lives and minimize the impact [8].

The COVID-19 pandemic has exacerbated the public health challenges of the 21st century. It exposed the inequities in public health management between advanced and developing countries and the shortcomings and inappropriateness of globalization of public health management system [39]. While the intersection of public health and bioethics may be recent, the COVID-19 pandemic has precipitously brought to the fore the overbearing influence of culture on health behavior [17]. This explains why societies and biomedical practitioners differ in their perspectives of what COVID-19 is, how it should be prevented and how it can be treated. The lack of medical consensus among medical experts, scientists, and health workers on the origin and appropriate countermeasures derive partly from differences in cultural beliefs and perspectives and is mainly responsible for the many conflicting 'conspiracy theories' flying around. The lesson to learn is that the globalization of the public

health system by the World Health Organization (WHO) without integrating the various cultural spectrums of member nations and accommodating their cultural nuances is an excellent impediment to achieving health for all as espoused in the Sustainable development goals (SDGs). This paper highlights the usefulness of African Indigenous medicinal plants in treating different diseases.

Bioethics

The philosophical foundation of ethical theory in health-related matters is medical ethics. Ethics focuses on the principles and cultural rules that determine what is considered "right and wrong" or "good and evil." Ethics is derived from values and qualities that each person wishes to embody and moral systems of 'dos' and 'don'ts' that help guide individual behaviors and actions [17,37]. Western medicine traditionally operates within a formal code of ethics, the Hippocratic Oath, which focuses on the physician-patient relationship and moral obligation of beneficence and non-maleficence [10]. Recent events in the life sciences and new health research perspectives and technologies have stretched the frontiers of medical ethics beyond the patient-doctor relationship to a new space called bioethics. The term Bioethics was first coined by Fritz Jahr in 1927. He proposed that "the rule for our actions may be the Bio-Ethical Demand: Respect every living being on principle as a goal in itself and treat it, if possible, as

such!" He reasoned that new science and technology would seriously impact humans, animals, and the environment, so there must be ethical and philosophical considerations to balance science and the ecosystem [31]. The term was, however, popularized by Potter (1970), a Biochemist, Bioethicist, and Professor of Oncology at the University of Wisconsin-Madison, who in 1970 published a paper titled "Bioethics: The science of survival" in the journal, *Perspectives in biology and medicine*, and followed up with a book, titled "Bioethics: Bridge to the Future" [35].

According to Potter, technological innovation and medical progress have brought knowledge to the world, but the wisdom of how to use the knowledge correctly was lacking. So, there was a need to balance scientific progress with humanity to establish an ecological balance and protect natural resources.

Bioethics has become holistic, cutting across every discipline and every aspect of human life. It is all-encompassing and deals with every aspect of life, including health issues, medicine, life sciences, society, research, organizations, environment, social unrest, sexuality issues, gender inequality, etc. [46]. Bioethics has become an amalgam that encompasses research, clinical, and public health ethics and deals with the principles of right and wrong behaviors that guide medical and public health research and practice with animals and humans. Beauchamp and Childress (2009) proposed the four ethical principles of autonomy, beneficence, non-maleficence, and justice. These principles play a vital role in biomedical ethics and form the core of a cross-cultural and universal common morality [17]. Though these norms and principles form the basis for how we practice and apply medical intervention and prevention, they may be interpreted differently across cultures [17]. This possibly explains why societies and biomedicine differ in their belief of what is considered a "good death."

Culture

The concept of culture is fascinating to the convergence of bioethics, public health practice, and public health research. *Culture* is defined as a people's way of life; scholars need more consensus on what constitutes a culture, what it does, and how it changes [29]. Nonetheless, it is generally accepted that culture brings together rules, values, and behaviors that dictate the actions and attitudes that define social conduct and explain why specific actions, attitudes, and virtues are good or bad [17,39].

Therefore, central to the concept of culture is the issue of behavior. *Culture* is perceived as the full range of *learned* human behavior patterns, all of which constitute a way of life for a people. Values, beliefs, customs, and rituals are central to this cultural perspective [27,37].

Another concept of culture is the element of function. Culture as a function provides rules to ensure the cooperation of the individuals of a group in adjusting to environmental situations and maintaining order, command, and control [29]. Values and beliefs drive attitude

and behavior [39]. Scriptural records show that ancient peoples experienced diseases spreading by air or contact. Without any medical theories of contagion, they knew they could break the spread by breaking contact. Hence, they developed laws of "purity" and regulated interaction among people who appeared sick or had bodily discharges. Jewish law required people diagnosed with a contagious disease to be distanced from others and isolated [44] as long as they had the disease. They were required to wear a covering over their lower face -nose, and mouth [44] and wash their hands and body under running water [44], while all their contaminated garments wereto be burnt [44]. These laws handed down by the Levites, who functioned as both priests and medical practitioners, were passed down from one generation to another and are today a powerful mantrafor controlling pandemics by the World Health Organization (WHO).Another theme of culture expressed by scholars is the ideational concept, which sees culture as a shared idea. This concept perceives culture as a dynamic rather than a static function and favors the idea that moral values are not absolute but constitute a set of references from which different societies take ideas [16]. Ebbesen further describes culture as a practical system of knowledge for solving problems and building realities as the situation demands. The ideational culture concept, more than any other thing, is responsible for the globalization of the public health management system. Over time, the western world invaded and disrupted the cultures of developing countries. Through colonial and post-colonial domination, they have dislodged and impeded the local culture indigenous to the people, jettisoned their system of values, and forcedthem to accept systems of ethics alien to them. In this respect, Africaand most Asian countries were "stripped" of their culture [2]. The West, ensconced in this euphoria of cultural conquest, has proceededto administer the world as a global village, foisting their interests, policies, and guidelines on the world without deference to the cultural diversity which has sustained variegated beliefs, customs, and ritualsthat have remained reticence among the different ethnic nationalities [2]. There is a growing recognition that culture is a significant determinant of population health. This recognition was exposed by the research of Wilkinson and Marmot (2003) on the socioeconomic determinants of health and other contributions to the development ofsocial epidemiology.

Public health

Public health is concerned with improving human health (through research, action, and policies) and reducing disease at the population level. Stewart (2008) noted that there are two main traditions in ethics, theoretical ethics, concerned with the internal logic of ethical systems, and normative ethics, which deals with norms and guidelines for behavior and actions in 'real-life' situations. Stewart classified public health ethics as normative. He said public health ethics focus on the values and rules guiding actions and policies established to promote population health and prevent diseases. Public health ethics has only

recently been formalized. 'The Principles of the Ethical Practice of Public Health, adopted by the American Public Health Association, APHA, in 2002, is the first formalized public health code [9].

African innovations to COVID-19: Perspectives on Culture and Health Behaviour

Not minding WHO-prescribed specifications on managing the pandemic, interventionists' measures have been approached in different ways in different countries and cultures because practical moral problems and the balancing of different values vary from country to country. At the same time, the western world's response to the COVID-19 pandemic was based on western scientific culture, which has become the benchmark for global public health management. Africa also resorted to an indigenous knowledge system using alternative and complementary methods [1]. It is regretful that despite seemingly fruitful innovations, the WHO ignores Africans' efforts to create functional interventions for the COVID-19 pandemic. In a clear demonstration of the extent to which the world holds the African knowledge system in contempt, in documenting global responses to the COVID-19 pandemic, has paid exclusive attention to orthodoxy while reporting on prevention, control, management, and treatment of COVID-19 strategies, ignoring innovations from indigenous Africans (<https://www.rfi.fr> › RFI › Africa). Though African traditional medicine is underdeveloped, it has played a massive role in providing primary healthcare services, and we will continue to ignore it to the great detriment of medical interventions. Published articles show that the World Health Organization (WHO) has supported the use of African traditional medicine [3,28] but will publicly condemn it when it is expected to stand for it. An article by Arazeem Ali Abdullahi titled "*Trends and Challenges of Traditional Medicine in Africa*" clearly gave WHO detailed support for treating illnesses and diseases using traditional medicine.

Traditional medicine is laced with knowledge and skills based on the theories, beliefs, and experiences indigenous to people of a different culture [26,28]. Traditional medicine is also known as ethanol-medicine, and it is the oldest form of a health care system which is ancient, culture-bound, and very effective in treating various illnesses and diseases [3]. African indigenous knowledge has documented an array of medicinal plants, so called because they contain inherent bioactive agents used as supplements for the maintenance of good health, in the treatment of diseases, or as pain relieving decoctions [5,26,28]. Medicinal plants are functionally divided into two. Those that contain health supplements and are regularly incorporated into our diets are called food spices (examples include leafy vegetables, pepper, garlic, onions, ginger, etc.); because they are used as everyday dietary ingredients, we often neglect their medicinal values. The more popularly acclaimed medicinal drugs are herbs, those plants whose bioactivity is targeted at treating diseases or as pain relieving decoctions and administered explicitly for medicinal purposes.

African interventions to manage the pandemic derive from their culture and adaptive health behavior. [5].

Beyond the WHO prescriptions, indigenous peoples of Africa sought solutions to the COVID-19 pandemic. In Africa, people took preemptive actions and adopted indigenous knowledge systems and practices such as voluntary preventive measures and treatment. Based on the traditional knowledge of naturopathy, which is as old as the origin of man, Africans used natural hot spices to clear their respiratory tract. This knowledge was widely employed in preventing and controlling the spread of the COVID-19 virus within continental space. Popular COVID-19 preventive practices include the chewing of a sizeable quantity of black pepper (*Piper nigrum*), garlic (*Zingiber officinale*), ginger (*Allium sativum*), onions (*Allium cepa*), and chili pepper, either alone or in combination or drinking hot brews containing same. The hotness of these spices is believed to destroy the virus, and the peppers sensation helps induce a runny nose with the potential of mucous trapping and eliminates the virus if available. As a rule of thumb, in addition to the practice of isolation, physical distancing, hand hygiene, and wearing face masks, most Africans adopted this extra measure after every exposure episode. Another popular indigenous COVID-19 preventive action is the gulping of "pepper soup," a local African soup that is prepared with meat or fish slices, chili pepper, and other spices and served hot. It elicits a more significant effect in clearing the respiratory tract than any of the spices mentioned above. Other practices that came in handy were drinking hot water laced with lemon, garlic, and ginger, steam inhalation as well as snuffing tobacco. Steam inhalation and snuffing of tobacco help to loosen mucous inside the airways and lungs. The scientific facts behind these practices are indisputable [3,19].

The symptoms of COVID-19, like fever, chills, cough, shortness of breath, fatigue, confusion, drowsiness, and pneumonia, among others, have always been with us in Africa. Over the centuries, our ancestors had identified herbs with antiviral, antibacterial, anti-inflammatory, and antipyretic effects and developed formulations with preventive and palliative effects, as well as for treatment and management of such conditions. This indigenous knowledge system came in handy in response to the COVID-19 pandemic [5,19]. The most popular regimen prescribed for managing and treating COVID-19 in Africa is called the "Mama's pot." "Mama's pot" is a local parlance for a concoction of herbs traditionally brewed by indigenous African mothers to treat a litany of ill health conditions and diseases. The cocktail mixtures are of an assorted type and may include any leaves, flowers, bulbs, roots, tree barks, stems, and trunks in various combinations and rations depending on the desired recipe and availability of ingredients. While holding patients over the hot steam of the cocktail broth for a steam bath under a blanket or thick covering usually presents with quick relief of fever, the brews can be used as an infusion (cocktail usually made of leaves and flowers) or decoction (made with roots and barks) [22,33,41]. The dosages differ depending

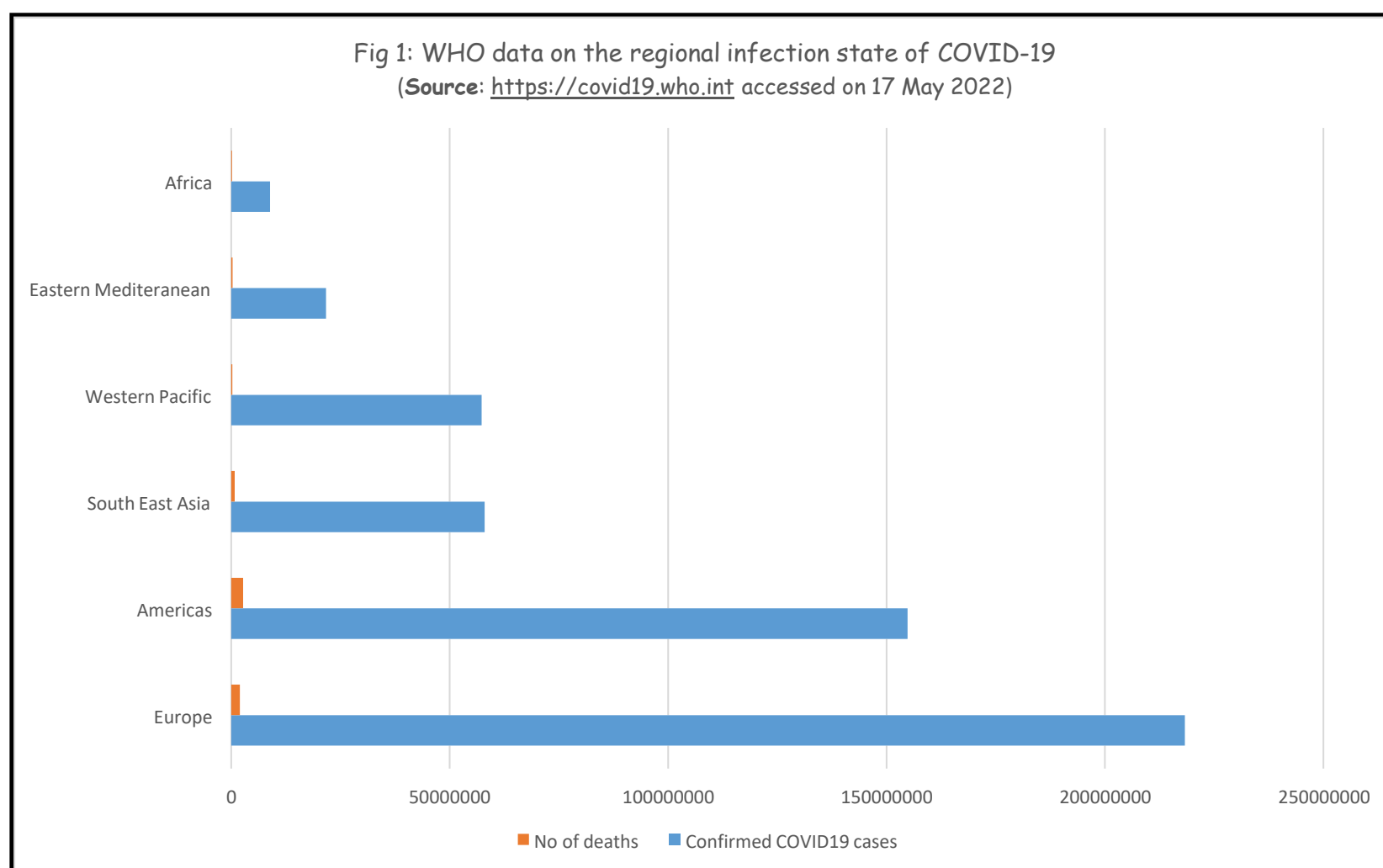
on the recipe, the ailment and severity, and the culture. Over fifty (50) such recipe preparations are made from over a hundred plant materials comprising plant leaves (*Azadirachta indica* (neem), *Moringa oleifera*, Mango (*Mangifera indica*), Guava (*Psidium guajava*), Avocado pear (*Persea Americana*), Pawpaw (*Carica papaya*), etc.), herbs (*Eupatorium odoratum*, Scent leaf (*Ocimum gratissimum*), bitter leaf (*Vernonia amygdalina*) *Aloe vera*, etc.), grass (lemon grass (*Cymbopogon citratus*), Spear grass (*Heteropogon contortus*), Cough grass (*Elymus repens*), flower (Hibiscus, Sunflower), roots (Turmeric, Ginger), fruits (Lemon (*Citrus aurantiifolia*), Prekese (*Tetrapleura tetraptera*), and seeds (Bitter cola (*Garcinia kola*), black pepper (*Piper nigrum*), etc.) are readily available in the literature [22,23,41] and far many more are undocumented. Some other formulations involve the maceration of plant materials (leaves, roots, or backs) and steeping the cocktails in alcoholic beverages for days to extract the active ingredients, which are then administered orally in repeated doses.

These recipe formulations have been used for ages as antiprotozoal (especially for treating malaria), antiviral, antibacterial, anti-inflammatory, and antipyretic remedies. Fokou and Fokou, 2020 reported that as many as thirty-nine such recipes comprising thirty-eight ingredients were used to prevent COVID-19 by the people of Douala and Yaounde in Cameroun. The local understanding is that "like begets like," so all organisms presenting the same symptoms of disease or ill health are amenable to the same treatment. Given this, Africans need not wait for research to find a cure for COVID-19. They are conversant with the reported symptoms of the pandemic and

readily have remedies for them. Convinced by the veracity of the indigenous knowledge system, most traditional healers and knowledgeable elders prescribed this age-long health practice for the prevention, management, and control of infectious diseases.

There is bountiful literature on the efficacy of phytochemicals and their effectiveness in treating diseases and alleviating ill health conditions [5]. While scientific literature is more concerned with the efficacy and effectiveness of bioactive extracts, Ezeonu (2015) proposed that biomolecules or biomaterials in their native states are more potentially active than when extracted or made into artificial formulations. He coined the word natipotency (meaning native potency or potency due to native state to describe this). The efficacy of mama's pot shows that the combined effect of phytochemicals found in herbal cocktail mixtures, either working singly or in synergy, potentiates the effectiveness and efficacy of crude bioactive agents over extracts.

Various recipes of African "Mama's pot" used in the treatment of COVID-19 and its associated infections were reported by locals to prevent and treat the symptoms effectively and elicited relief from associated disorders like fever, shortness of breath, drowsiness, and fatigue. Unfortunately, no hospital records support this as these alternative and complementary practices are home base interventions. It can, however, be argued that figures from the [47] data on regional infection status support this claim. As of 17 May 2022, Africa had the least number of reportedly confirmed infections, about 9 million, against over 218 and 154 million in Europe and the Americas, respectively (see figure 1).



Inequities in public health management between the advanced and developing countries

According to Abimbola *et al.* (2021), COVID-19 has exposed the existing inequalities among nations, particularly between the advanced and developing economies, and a new form of colonialism controlling the mind, body, knowledge, and power. The pandemic has created more conditions for further inequities, with growing populist nationalism and isolationism and widening income disparities in a fractured, compromised system of global cooperation [24,51]. The pandemic has also helped those with money and power to expand their influences in colonization, distribution of power, knowledge, and resources (e.g., vaccines), thereby creating deep uncertainty among other large-scale disruptive processes [1]. In years to come, the total impact of the pandemic will be more manifest and better understood. The COVID-19 pandemic raised many ethical issues and left countries confused and filled with uncertainty regarding the health of their citizens, the environment, and their economic situation. It presented a lot of ethical issues arising from resources allocation, priority setting, superiority, healthcare workers' rights, healthcare system, obligations to conduct clinical trials, public health surveillance, information sharing, individual/community preferences/needs, physical distancing, vaccine production, distributions, and administration [30,48]. These ethical issues are complicated given the global society's diverse cultures, religions, and socioeconomic contexts.

It is believed that some norms remain universal despite the diversity and differences in cultures. For example, the inviolability or *sanctity of life* is a universal principle of implied protection regarding aspects of sentient life and promotes the norms of "Do not kill" and "Not harm." However, looking through the windows of the four ethical principles of autonomy, beneficence, nonmaleficence, and justice, we can see breaches and inequities in the public health management system between the advanced and developing countries that Covid 19 has exposed. Almost all the ethical principles came under threat. Autonomy ethics supports the state or condition of self-governance or leading one's life according to reasons, values, or desires authentically one's own. Developed countries aided by the WHO imposed their standards on the world with vehemence and took away one's own. The cultural system is becoming increasingly more uniform and affecting everyone to different degrees and at times. Even remotely perceived in the past, the COVID-19 pandemic has magnified this recognition in both space and dimension. The pandemic places everyone at the same level of risk and defending one's health requires sustainable interaction and development with other ecological and cultural systems [17,39]. Unfortunately, local remedies with the promise of a cure for COVID-19 were shot down while African leaders were forced to accept vaccines as the only alternative. Efforts were even

made through legislation to enact laws that will make COVID-19 vaccination compulsory in African countries, including Nigeria.

In 2020, Madagascar, in the heat of the pandemic, launched a herbal tea called Covid-Organic, made from Artemisia and other ingredients to cure Covid-19. The tea was based on work by the Malagasy Institute of Applied Research. As soon as it was launched by the President of Madagascar, WHO slammed it (<https://www.rfi.fr/Africa>). What has been considered a tragedy is that the WHO, which dismissed this claim, is led by an African health scientist? In jettisoning the scientific claim, which failed to employ the usual scientific peer review mechanism of validation, which threw away the baby and the bath water. Given the ever-visible quest for the control of the gateway to knowledge, the ever "superior western powers" keyed in and rubbished the claims while promoting their efforts and getting the WHO to try out their products even without exhausting the usual sequence of clinical trials.

Then as if to beat and win a race, the West rolled out vaccines, which the WHO promoted despite notable side effects and terrible adverse effects in some instances, which include death, internal blood clot, etc. [42]. Nobody condemned any of the vaccines; instead, the makers, were rolling out and rolling back products for enhancement and improvement, and in most cases, without completed clinical trials. At the same time, vaccines manufactured by Chinese, Indian and Cuban companies were relegated.

Most Western pharmaceutical firms at the forefront of COVID-19 vaccine production, Pfizer, AstraZeneca, Glaxo SmithKline, and Johnson & Johnson, are companies with questionable pedigrees. A published paper by Paul Thacker in the British Medical Journal detailed the atrocities surrounding the Pfizer Covid-19 vaccine. This included falsification of data, unblinding patients in what was supposed to be a blinded randomized trial, questionable research integrity, and the non-follow-up on adverse effects of the Pfizer Covid-19 vaccine in its phase III trial [45]. He noted that the staff who reported the unethical trial by Pfizer to the United States FDA was fired the same day. Thacker (2021) berated that amidst this global research misconduct surrounding Pfizer, humanity was offered and, in some cases, forced to take the COVID-19 vaccine by Pfizer.

Indeed, Pfizer has a notorious history of breaching ethical norms. In 1996, Pfizer took advantage of the meningitis outbreak in Kano state, Nigeria, and the lack of a National Ethics Committee to do a Trovan drug trial with children when at the time, Trovan was already banned in the United States for killing adults. Pfizer lied that it was coming to Nigeria to help with the meningitis outbreak. When Pfizer saw that Trovan was killing some children and deforming some, it quickly left Nigeria. Pfizer's experiment left 11 children dead, and many others disabled. It took Nigerian officials up to 2007 to file lawsuits against Pfizer for murder and criminal accounts, seeking almost \$2 billion in compensation and damages. Eventually, in 2010, Pfizer settled out of court, paying only \$75 million; in exchange, all criminal charges

against them were dropped [7]. Wikileaks (2010) later revealed behind the scenes maneuvers and corrupt practices that attended the out-of-court settlement. However, despite all these atrocities, Pfizer is still flourishing because it is a western pharmaceutical company.

AstraZeneca has also been tainted with unethical research misconduct. One such unethical research misconduct reportedly led to the death of 26-year-old Dan Markinson, yet their vaccines are all over the place [18,32]. In 2010, AstraZeneca paid \$520 million to settle Federal Fraud Charges [18]. The international communities would have closed them down if Pfizer or AstraZeneca were African pharmaceutical companies. No African ever questions anything from the West, especially the United States, because the power distance indexes between the two are incomparable.

There are also unethical atrocities associated with GlaxoSmithKline (GSK) and WHO with Ebola and malaria vaccine trials in Ghana [15,23]. Johnson & Johnson also has atrocities with cancerous agents in their baby products, the recent adverse effects of their COVID-19 vaccine, etc. They all have their fair share of unethical misconduct, but they are still waxing stronger and doling out COVID-19 vaccines for humanity to take.

To drive home the vaccine conquest, Vaccine certificates and vaccine passports were invented to serve as tools for immigration control and as an instrument of cohesion to let developing countries comply with COVID-19 vaccination—however, apparent dichotomy and distrust reign in vaccine politics, which question justice ethics. Even the COVAX Facility, a global pooled procurement mechanism for COVID-19 vaccines designed to ensure fair and equitable access to vaccines for all 190 participating economies, was heavily impugned using an allocation framework formulated by WHO. For instance, some European countries refused to recognize Covishield, the Oxford AstraZeneca vaccine manufactured in India, and to admit Africans who have taken the vaccine into their country. This is despite the fact that the same vaccine had been donated to three African countries through the COVAX facility. This elicited a protest from Ghanaian President Akufo-Addo (2021) at the 76th Session of the United Nations assembly held on 22nd December 2021.

Perceptions of African people towards Western manufactured vaccines are equally essential to provide an understanding of the level of acceptability within African communities. The hesitancy of Africans in embracing the COVID-19 vaccine draws from the experience of the Tuskegee experiment of 1932 and the recent criminal use of over one hundred Nigerian children as experimental guinea pigs in 1996 by Pfizer to test an unapproved antibiotic, Trovan, for the treatment of Meningitis without ethical clearance from the Nigerian regulatory authorities [25]. Both studies violated basic bioethical principles of respect for autonomy (participants were not fully informed in order to make autonomous decisions), nonmaleficence (participants were harmed), and justice (only Africans were used for the studies). The refusal of European

governments to accept Covishield as a viable COVID-19 vaccine for travel cover raises many suspicions and vindicates the fears and concerns of most Africans.

Covid 19 and Traditional herbs

Bousquet et al. (2021) proposed that significant country variations in COVID-19 death may be partly explained by diet. He surmised that many countries with low COVID-19 death rates have a common feature of eating large quantities of fermented vegetables such as cabbage and, on some continents, various spices. They argue that fermented vegetables and spices are agonists of the nuclear factor erythroid-derived 2-related factor 2 (Nrf2), an antioxidant transcription factor, and spices are transient receptor potential ankyrin 1 and vanillin 1 (TRPA1/V1) agonists. Their study suggests that these mechanisms may account for many COVID-19 symptoms and severity. Bousquet et al. study further claim that there is a synergy between Nrf2 and TRPA1/V1 foods that may explain the role of diet in COVID-19. Bousquet et al. (2021) proposed that one of the mechanisms of COVID-19 appears to be an oxygen species (ROS)-a mediated process in synergy with TRP channels, modulated by Nrf2 pathways. Therefore, they submitted that spicy foods are likely to desensitize TRP channels and synergize with exogenous antioxidants that activate the Nrf2 pathway.

It is public knowledge that herbs, and spices used in our foods have antiviral, antifungal, and antimicrobial properties and immunity boosters [27]. Nigerian researchers have identified ginger, garlic, onion, bitter kola, alligator pepper, black seed, turmeric, bitter leaf, zinc, and vitamin C to have the capacity to prevent and treat COVID-19. They argue that these frugal medicinal foods offer great chemoprophylaxis benefits and can play potent roles in preventing and curtailing the community spread of COVID-19 as it enhances boosted immunity and defense of the body system as a complete result of their cost-effectiveness and availability [43]. A team of Indian scientists has identified black pepper, the everyday kitchen spice, as a possible candidate for developing a drug against the novel coronavirus disease [38]. Using computational studies, they assayed 30 molecules present in common kitchen spices and explored their role as a therapeutic agent. Out of these, Piperine, an alkaloid in pepper responsible for its pungency, emerged as a strong deterrent of the virus proteins *in silico*. Using a molecular docking technique, they found that Piperine in black pepper can bind and inhibit the SARS-CoV-2 virus that causes the disease. The study noted that SARS-CoV-2, like any other virus, uses the proteins on its surface to enter the human body's cells and any natural compound that could bind to these proteins and stop the virus from entering human cells. The result of this study provides a sufficient empirical basis for wet-lab experiments and clinical trials in support of this computational study. WHO should take responsibility for commissioning such studies rather than turn a blind eye to them because of where it comes from.

Discussion and Conclusion

One good thing about bioethics is that it objectively questions procedures and assessment of new technological advances in science, biomedicine, and society, as well as the unequal distribution of health services globally [37]. Cultural relativism supports the idea that the ways of behavior that describe a person should not be judged. Instead, rules and values must be understood as regards relationships established within different cultures without having to impose interpretations from already conceived and standard analytical frameworks [37]. At the same time, cultural relativism postulates that moral values are not unmovable absolutes. Therefore, different societies can take other cultures' ideas, prescriptions, and preferences without undermining theirs. Culture is not just a system of knowledge, norms, and traditions sanctioned by history, but it is a practical instrument of the system used to solve problems and to build new realities as situations and interests demand [27,37]. The WHO's neglect of the African knowledge system is a global tragedy.

The pandemic has forced humanity to use the Utilitarian approach of consequentialism for the common good of the larger society. Cultural realities are subject to change concerning guided values which could be due to pressure or obligation for which aims may be set or could occur randomly. The challenge in applying bioethics to culture is that, over the years, bioethics has been seen and regarded as a field set exclusively for medicine and health-related matters. Bioethics also needs to be used in the direction of multicultural interests by including and identifying problems relative to diversity and globalization [27,37].

Bioethics contributes to applicable guidelines and arguments to serve ethical duties for the public in general. It resolves moral and cultural dilemmas by appealing to dignity, freedom, and protection principles. These principles help to understand health, vulnerability, and physical integrity in intercultural terms. The 2005 UNESCO Declaration on Bioethics and Human Rights recognizes cultural diversity as a source of exchange, innovation, and creativity. It also recognizes that health depends not only on scientific innovations and medical progress but also on psycho-social and cultural factors. In every culture, bioethics plays the role of collective thought and dialogue between scientific breakthroughs and cultural ideas [40]. The pandemic is not limited to borders which cannot be a concern on a local health level. When it

comes to global health, it is advisable to look inwards and understand the relevance of African indigenous traditional medicine.

The world has been unfair to Africa and the rest of the developing world. In most global agenda-setting programs, Africa and African interests are always relegated, if not entirely ignored. In 2009, African countries boycotted meetings at UN climate talks in Barcelona because industrial countries had set low carbon-cutting targets for reducing global greenhouse gas emissions. That unity of purpose demonstrated at such an auspicious moment forced the UN to reconsider its stand. We must intentionally foist the flag of African unity in setting the global agenda. The success of Africa in managing the pandemic is a lesson that we can tackle our problems without the lens of colonization. The principles of autonomy (Respect for Person), beneficence, nonmaleficence, and justice are not only specific to biomedical ethics but are cross-cultural morality found in all cultures. The relationship between bioethics and culture is helpful to understand it as empirical in specifically different contexts. Bioethics, therefore, should be the bridge between scientific breakthroughs and cultural ideas. Bioethics does not come at the end of a project but from the beginning.

Africa is our continent. Until we rise to defend it and appreciate its enormous natural resources, we will continue to look up to the West, which invariably admires what we have. The pandemic has presented extraordinary challenges to the worldwide healthcare system. We can, for the benefit of the larger society, act on the ethical principles of communitarianism which Africans practice to develop and preserve our values of respect for things that are indigenous to us, as well as recognize the value of our diverse culture and autonomy in the control of our lives and decisions.

Conflict of Interest Statement: The authors have no conflict of interest to declare

Funding Sources: The authors did not receive any funding for the work

Author Contributions

The first author proposed the concept and came up with an initial draft. After discussion, the second author expanded the scope and carried out a review using extensive literatures.

All authors accepted the paper.

References

1. Abimbola S, Asthana S, Montenegro C, Guinto RR, Jumbam DT, et al. (2021) Addressing power asymmetries in global health: Imperatives in the wake of the COVID-19 pandemic. *PLoS Med.* 18(4): e1003604.
2. Abimbola S, Pai M (2021) Undoing supremacy in global health will require more than decolonisation—Authors' reply. *Lancet.* 397(10279): 1058–1059.
3. Abdullahi AA (2011) Trends and challenges of traditional medicine in Africa. *Afr J Tradit Complement Altern Med.* 8(5 Suppl): 115-23.
4. Addo-Akufo Addo Dankwa (2021) Address by the President of the Republic of Ghana, Nana Addo Dankwa Akufo-Addo, at the 76th Session of the United Nations' General Assembly. Embassy Ethiopia - Mission News.

5. Adeniyi JN, Nlooto M, Ngcobo M, Moodley R, Gomo E (2021) Phytochemical profile and in vitro antioxidant activity of Emelia M (EMB), Mshikazi and Delosma H herbal medicines as demonstrated in THP-1 and Jurkat leukaemia cell lines. *Afri Health Sci.* 21(4): 1924-1937.
6. African news. Profiting from Madagascar's herbal 'cure' for Covid: the story behind Artemisia.
7. Ahmad K (2001) Drug company sued over research trial in Nigeria. *Science and Medicine.* 358(9284): 815.
8. Anyanwu MU, Festus IJ, Nwobi OC, Jaja CIJ, Oguttu JW (2020). A Perspective on Nigeria's Preparedness, Response and Challenges to Mitigating the Spread of COVID-19. *Challenges.* 11(2): 22.
9. APHA (2002) Principles of the ethical practice of public health.
10. Askitopoulou H, Vgontzas AN (2018) The relevance of the Hippocratic Oath to the ethical and moral values of contemporary medicine. Part II: interpretation of the Hippocratic Oath—today's perspective. *European Spine Journal.* 27(7): 1491-1500.
11. Attah AF, Fagbemi AA, Olubiyi O, Dada-Adegbola H, Oluwadotun A, et al. (2021) Therapeutic Potentials of Antiviral Plants Used in Traditional African Medicine With COVID-19 in Focus: A Nigerian Perspective. *Front. Pharmacol.* 12: 596855.
12. Beauchamp TL, Childress JF (2009). Principles of biomedical ethics. New York: Oxford University Press.
13. Bousquet J, Czarlewski W, Zuberbier T, Mullol J, Blain H, et al. (2021) Spices to Control COVID-19 Symptoms : Yes, but Not Only.... *Int Arch Allergy Immunol.* 182(6): 489-495.
14. Cohen-Almagor R (2017) On the philosophical foundations of medical ethics: Aristotle, Kant, JS Mill and Rawls. *Ethics, Medicine, and Public Health.* 3(4): 436-444.
15. Doshi P (2020) WHO's malaria vaccine study represents a serious breach of international ethical standards. *BMJ.* 368: m734.
16. Ebbesen M (2016) Bioethics across Cultures – Philosophical and Empirical Justification of the Four Principles of Biomedical Ethics. *J Clin Res Bioeth.* 7(1): 259.
17. Ebbesen M (2011) Cross Cultural Principles for bioethics. Intech open.
18. Elliott C (2017) Institutional Pathology and the Death of Dan Markingson, Accountability in Research, Quality and Policy Assurance. 24(2): 65-79.
19. Eze MO, Ejike CECC, Ifeonu P, Mignone J, Udenigwe CC, et al. (2021) Mutual Pan-African support paradigm to produce scientific evidence of traditional medical practices for use against COVID-19 and emerging pandemics. *Sci Afr.* 14: e01046.
20. Ezeonu, F.C. (2015) Poisons in the Nigerian Environment: within our reach, beyond our control. 25th Inaugural Lecture of Nnamdi Azikiwe University, Awka, Nigeria.
21. Fritz Jahr (1927). *Bio-Ethik*'. *Kosmos* 24: 4.
22. Iwu MM (2014) Handbook of African Medicinal Plants.
23. Kummervold PE, Schulz WS, Smout E, Fernandez-Luque L, Larson HJ (2017) Controversial Ebola vaccine trials in Ghana: a thematic analysis of critiques and rebuttals in digital news. *BMC Public Health.* 17(1): 642.
24. Lal A, Erundu NA, Heymann DL, Gitahi G, Yates R (2020) Fragmented health systems in COVID-19: rectifying the misalignment between global health security and universal health coverage. *Lancet.* 397(10268): P61-67.
25. Lenzer J (2006) Secret report surfaces showing that Pfizer was at fault in Nigerian drug tests. *BMJ.* 332(7552): 1233.
26. Logiel A, Jørs E, Akugizibwe P, Ahnfeldt-Møllerup P (2021) Prevalence and socio-economic factors affecting the use of traditional medicine among adults of Katikékile Subcounty, Moroto District, Uganda. *Afri Health Sci.* 21(3): 1410-1417.
27. Marshall P, Koenig B (2004) Accounting for Culture in a Globalized Bioethics. *Journal of Law Medicine Ethics.* 32(2): 252-66.
28. Mahomoodally MF (2013) Traditional medicines in Africa: an appraisal of ten potent african medicinal plants. *Evid Based Complement Alternat Med.* 2013: 617459.
29. Morabia A, Costanza MC (2012) Culture(s). *Preventive medicine.* 55(5): 351-352.
30. Moodley K, Rennie S, Behets F, Obasa AE, Yemesi R, et al. (2021) Allocation of scarce resources in Africa during COVID-19: Utility and justice for the bottom of the pyramid? *Developing World Bioethics.* 21(1): 36–43.
31. Muzur A, Rinčić I (2011) Fritz Jahr (1895-1953): the man who invented bioethics. *Synthesis Philosophica,* 26(1): 133-139.
32. Noble J (2015) A clinical drug study at the University of Minnesota. Department of Psychiatry: The Dan Markingson Case. Office of the Legislative Auditor. State of Minnesota.
33. Okafor JC (2013) Tropical Plants in Healthcare Delivery in Nigeria: A Guide in the Treatment of Common Ailments and Conditions. Ibadan, Nigeria: Book Builders Publishers.
34. Fokou PVT, Fokouo RDY (2020) Exploring the indigenous knowledge systems to respond to coronavirus infection 2019 in Cameroon. *Ethnobotany Research & Applications.* 20(37): 1-27.
35. Potter VR (1970) Bioethics: The science of survival. *Perspectives in Biology and Medicine.* 14(1): 127-153.
36. Potter VR (1970) Bioethics: Bridge to the Future. Prentice-Hall biological science series, 205pages.
37. Rey B, Jesus M (2009) Global Bioethics and Cultural Anthropology. Observatory of Bioethics and Law, University of Barcelona Baldiri i Reixach, 4-6, Barcelona.
38. Rout J, Swain BC, Tripathy U (2022) In silico investigation of spice molecules as potent inhibitor of SARS-CoV-2. *J Biomol Struct Dyn.* 40(2): 860-874.

39. Singh NA, Kumar P, Jyoti, Kumar N (2021) Spices and herbs: Potential antiviral preventives and immunity boosters during COVID-19. *Phytotherapy research*. 35(5): 2745-2757.
40. Stewart K (2008) Anthropological Perspectives in Bio-Ethics. *International Encyclopedia of Public Health*. 184-193.
41. Sofowora EA (1993) *Medicinal Plants and Traditional Medicine in Africa*. Spectrum Books , Ibadan, 191-289.
42. Tanveer S, Rowhani-Farid A, Hong K, Jefferson T, Doshi P (2021) Transparency of COVID-19 vaccine trials: decisions without data. *BMJ Evidence-Based Medicine*. 27(4):199-205.
43. Teibo J, Olorunfemi F, Ajayi J, Adewolu M (2020) Frugal Chemoprophylaxis against COVID-19: Possible preventive benefits for the populace. *Int. J. Adv. Res. Biol. Sci*. 7(6): 44-64.
44. The holy Bible: New International Version, 1978, Leviticus 13;45 - 52, Leviticus 15:13.
- 45.
- Thacker PD (2021) Covid -19: Researcher blows the whistle on data integrity issues in Pfizer vaccine trial. *BMJ Investigation*. BMJ. 375: n2635.
46. UNESCO (2019) Bioethics committees and public engagement - UNESCO Digital Library
47. WHO (2022). WHO Coronavirus (COVID-19) dashboard.
48. World Health Organization 2020. Some rights reserved. This work is available under the CC BY-NC-SA 3.0 IGO licence.
49. Wikileaks cables (2010): Pfizer ‘used dirty tricks to avoid clinical trial payout’ published online 09-12-10, guardian.co.uk
50. Wilkinson R, Michael M (2003) Social determinants of health.
51. Williams CR, Kestenbaum JG, Meier BM (2020) Populist Nationalism Threatens Health and Human Rights in the COVID-19 Response. *Am J Public Health*. 110(12): 1766–1768.