

THE IMPORTANCE OF AFRICAN TRADITIONAL MEDICINE AND HEALING TECHNIQUES IN THE FIGHT AGAINST COVID – 19 PANDEMIC

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Abstract

*COVID – 19 pandemic has rekindled the need for the development of traditional healing techniques using **traditional** medicine in health care delivery. Orthodox drugs and medical services are no longer available due to border closures. This has led to the increasing interest and the interest in herbal medicines not only because of cost of orthodox medicine, but it is simply because herbal medicine has proven to work competitively effective on this novel coronavirus when western scientific medicine failed to provide effective solution to the problem while, traditional herbal medicine is making appreciate breakthrough. This paper examined the contribution of African medical practice essentially as contextual solution to the various medical challenges. This research attempted to address the problems attached to COVID – 19 disease and the stigmatization attached to indigenous medicines used in the treatment of some simple diseases ailments such as; cough, fever, headache, poison from bites, skin diseases and other infections, perhaps, because of the method of preparation used by the traditional healers. Africans can use their medical talents to apply new medicinal trials for diseases like COVID -19. The researcher discovered that, despite the benefits of the advancement of orthodoxy healing techniques, though yet to be found and made available for the treatment of COVID -19, it is also true that globalization has endangered the vitality of the shrines and sacred places that were used for providing solution for difficult issues like this. The research supports the need to redecorate the instrumentality of improving the techniques of the traditional healing heritage among African people. The paper advocates the importance of corroboration between the orthodox and traditional medical techniques with the view of equipping ourselves against emerging contemporary global challenges.*

Keywords: COVID – 19, Ethics, Heritage, Medicine.

Introduction

There is no doubt that COVID – 19 pandemic has posed serious global threat to public health. Following the conspiracy theories of population reduction concerning the spread of the virus in China and other countries, it was thought that this virus and others, such as the SARS and swine flu viruses, were deliberately created and spread by some people, in order to make profit through the sale of vaccines against these diseases. Others were of the opinion that the virus was part of an economic and psychological war waged by the U.S.

against China with the aim of weakening it and presenting it as a backward country and a source of diseases. While the China accused US of transmitting the virus to China during the military games that took place in Wuhan.¹ Whatever is the ulterior motive or blame game, the whole world has been plugged into a very serious health challenge and every continent and country is faced with the reality of finding solution to safeguard the citizens from the issue at hand. This challenge serves as call to stimulate and revitalize the long neglected African Traditional Medicine and healing heritage. Traditional Medicine is the total body of knowledge and the use of techniques for the preparation and use of substances that are based on the socio-cultural and religious bed-rock of African people, which are used for the diagnosis, healing, prevention, and elimination of imbalances in the physical, mental or social well being of a person. They are established on experience and handed down from generation to generation either verbally or in writing.² African medicine is aimed at healing the whole of man; it is close to the Christian concept of healing i.e. 'making whole' in contrast to western medicine which emphasizes the restoration of health in the body. This is because health and life constitute a single scope with the need to maintain life in its vital totality especially with the rise in the current challenge of COVID-19 pandemic. The aim of this paper is to examine the concept of traditional medicine and establish their significance in the provision of techniques for containing, preventing and healing techniques against COVID-19 and other emerging diseases.

COVID – 19 Pandemic as Public Health Challenge

The outbreaks of viral diseases are no news. In the past number of decades, viral diseases have continued to emerge and constituted serious public health challenge. Viral epidemics such as influenza in the 18th century, the severe acute respiratory syndrome coronavirus (SARS-CoV) in 2002 to 2003, and H1N1 influenza in 2009, have been recorded. The Middle East Respiratory Syndrome coronavirus (MERS-CoV) was first identified in Saudi Arabia in 2012.³ This outbreak presented with cases with unexplained low respiratory tract infections, these were first detected in Wuhan, the largest metropolitan area in China's Hubei province and reported to the World Health Organization's Country Office in China, on the 31st December, 2019. These first cases were classified as "pneumonia of unknown etiology." The Chinese Center for Disease Control and Prevention (CDC) and local CDCs organized an intensive outbreak investigation program. The illness was attributed to a novel virus belonging to the coronavirus (CoV) family. Initially, the new virus was called 2019-nCoV. Subsequently, the experts of the International Committee on Taxonomy of Viruses (ICTV) termed it the SARS-CoV-2 virus as it is very similar to the one that caused the SARS outbreak (SARS-CoVs). The CoVs have become the major pathogens of emerging catastrophe of respiratory disease outbreaks. They are a large family of single-stranded RNA viruses that can be isolated in different animal species.⁴ For reasons yet to be explained, these viruses can cross species barriers and can cause in humans, illnesses ranging from common cold to more severe diseases such as MERS and SARS. Interestingly, scientists have discovered that these later viruses have probably originated from bats then moved into other mammalian hosts. The dynamics of SARS-Cov-2 are currently unknown, but there is speculation that it also has an animal origin. The potential for these viruses to grow into a pandemic constitute a serious public health risk. At the moment, world governments are at work to establish countermeasures to curtail possible devastating effects. While, Health organizations coordinate information flows and issue directives and guidelines to mitigate the impact of

the threat. At the same time, scientists around the world are working tirelessly to provide information about the transmission mechanisms, the clinical spectrum of disease, rapidly develop new diagnostics, prevention and therapeutic strategies. Many uncertainties remain with regard to both the virus host interaction and the evolution of the epidemic.⁵ Consequently, the therapeutic strategies to deal with the infection are only supportive, and prevention aimed at reducing transmission in the community is our best weapon.

The mode of transmission of CoVID-19

The virus is transmitted from human to human, and symptomatic people are the most frequent source of COVID -19 spread. The possibility of transmission before symptoms develop seems to be infrequent, although it cannot be excluded. Moreover, there are suggestions that individuals who remain asymptomatic could also transmit the virus. This suggests the use of isolation as the best way to contain this epidemic. As with other respiratory pathogens, including flu and rhinovirus, the transmission is believed to occur through respiratory droplets from coughing and sneezing. Aerosol transmission is also possible in case of protracted exposure to elevated aerosol concentrations in closed spaces.⁶ Further studies are needed to understand the mechanisms of transmission, the incubation times and the clinical course, and the duration of infectivity.

The Conspiracy of COVID 19 Pandemic

The fatal outbreak of COVID 19 started in Wuhan, China on the 31st December, 2019. The ugly scenario began when Li Wenliang, a 34-year-old ophthalmologist at Wuhan Central Hospital, raised alarm on December 30th 2019 about the existence of a contagious new virus that resemble the deadly SARS, but was muffled into silence by the Chinese government. Unfortunately, Li Wenliang died of the deadly Coronavirus disease.⁷ On the 20th January, 2020, Eric Feigl-Ding a Harvard epidemiologist called the attention of World Health Organisation (WHO) and Center for Disease Control and Prevention (CDC) to immediately declare a public health emergency on the new Coronavirus but was ignored.⁷ WHO later came up with an official statement on 11th February, 2020 and designated it as “COVID-19”, instead of “Wuhan-Coronavirus” or “China-Coronavirus for avoidance of stigmatization, contrary to the previous similar experiences we have before. Surprisingly, while the WHO had not advised the world on the concrete steps to avert spread of the outbreak, China had already built a “state-of-the-art facility” to contain the disease.⁸

The US and Europe took things for granted until around April when the disease had already spread from Asia to many other parts of the world. It was at this point that WHO started emphasizing on the need for testing, contact tracing and management of the disease. In the interim, the numbers of infections and deaths had reached an alarming rate in Italy, Iran, Spain and later the United States and the United Kingdom with more than 118,000 infection cases and 4,291 fatalities in 114 countries across the globe.⁹ It was at this point that WHO described the outbreak as a pandemic and epidemic on March 11, 2020. Consequently, many countries in African like; Nigeria, Ghana, Zimbabwe, Morocco, Rwanda, Kenya and South Africa started enforcing lockdown measures to reduce infections and minimize fatalities. The action of WHO suggests complicity and justifies the perception of the conspiracy that Coronavirus was manufactured, manipulated and reengineered in the laboratory. One aspect suggests that the project started in the US before it was moved to a lab in China. While the other aspect holds that the virus originated from a Wuhan lab as part of China's efforts to compete with the US. Whatever may have been the

case, the virus has been transported to all seven continents of the world.¹⁰ Language kept changing as the predicament lasted and studies into the pandemic continued to advance. On the 7th April, 2020, the WHO came out to say that, wearing of facemask was less important in the fight against the disease. Later, the narrative suddenly changed as the body issued another statement encouraging people to wear a facemask before going out to avoid being infected with the virus, there was no clear explanation of the distinction between social distancing and physical distancing. By mid-April that WHO advised various nations to declare lockdown with other effective measures such as staying at home, maintaining social distancing and frequent washing of hands with soap under running water, application of alcohol based hand sanitizers among others, businesses, schools, sports and religious activities were shut down. There was dichotomy created between those who tested positive and other potential victims. Another divide is that one between people who were quarantined and those who were locked down in their homes.¹¹ The stigma attached to those who test positive for the disease is yet to be addressed as counseling is not been put in place for the families of those who died of Coronavirus. It is surprising that WHO was quick to believe whatever China said but slow to carry out a random investigation on any trial drugs or vaccines, especially from Africa.

African Healing Techniques and the Quest for Cure against COVID – 19

Many academic institutions are working to find a cure against COVID - 19 using animal testing. In the interim, the anti-malarial drug, chloroquine and its derivative hydroxychloroquine have received substantial attention. What is the Nigerian government doing concerning those who have made claims of a possible cure for the disease? Is the Federal Government looking in the direction of those claims? Perhaps we can also support home invented products and efforts at biodiversity using the strength of the many universities with their research laboratories including pharmaceutical and medical research institutes as we look inwards for solutions. This will surely be of help to handle the challenges of overdose and self-medication with some remedies. It will also handle the problem of combining the use of herbal remedies together with prescribed medicines, which usually interfere with the normal metabolism of drugs leading to adverse effects. No doubts, the COVID-19 pandemic has come at a period of a growing call for collaboration amongst traditional medicine experts, chemists, pharmacologists, virologists and clinicians to accelerate research which would produce remedy to this existential problem.¹¹ Africa has a very rich tradition and Medicine and Healing Heritage which had been useful in the treatment of various disease ailments ranging from viral to bacteria and protozoa to fungi infections. This rich traditional Healing Heritage needs to be encouraged. This can be achieved by stimulating talents in this fields who show good result to enjoy some degree of security as they collaborate with medical science research institutes and pharmacological industries in order to come up with medicines which can carry ingredients components, dosages, methods of storage or preservation instructions, side effects and expiry dates.¹² We can continue to improve on that until we shall attain perfection. Such attempts will go a long way in solving our contextual medical challenges instead of going medical tours to Europe, America and Asia committing huge sums of money to the advantage of citizens in those countries. With the challenge posed by COVID -19 pandemic our leaders are expected to rise up and rethink on how to protect their territorial integrity by putting modalities on ground backed by legislation with the view of forestalling future occurrences. It is crucial to note how the inhabitants of the world have

been divided along continental lines. Since the G-8 countries of the world have not been able to proffer for themselves solution to the problem of COVID – 19, any solution from any quarters other than from the G-8 cannot be respected. For example, the President of Madagascar, Andry Rajoelina would have been given a pat on the back for developing COVID-Organics (CVO) herbal-solution, what the G-8 countries of the world have so far not been able to do. Again, WHO was quick to distance itself from the COVID-Organics (CVO) herbal-solution developed by the Malagasy Institute of Applied Research, WHO neither endorsed nor show any interest in the herbal cure because it originates from Africa (Madagascar) let alone to attempt to send scientists to investigate the new found cure for Coronavirus which is still harvesting lives across the globe. However, it is good and encouraging that other African countries are ordering for the Madagascan recipe to help curb the threat.¹³ It is confirmed that there is a marked improvement in the country's COVID-19 recovery ratio as 105 of 171 patients had reportedly been cured. Until now, there are no COVID-19 deaths in Madagascar and schools have reopened. *Interestingly*, the Madagascar president declared that, “Whether WHO approves of the Herbal medicine that has been discovered to cure COVID 19 or not, he will continue to use it to heal people.” For him, it is not the time to play or make money but it is time to save the lives of his people and Africa as a whole from COVID - 19 pandemic using God's given medicine.¹³ While, WHO is in the process of decision making, many African countries like Equatorial Guinea, Guinea Bissau, Senegal, Congo, Comoros and Tanzania have picked interest in the products. Madagascar's Miracle Medicine, has made the country to be considered an intruder in the high class global politics enveloped in the race for the cure of COVID - 19. Madagascar has disrupted the narrative of the so-called technological fortress that the world powers claim to have built for themselves. For example, the way WHO relates with China in the wake of this pandemic is suspicious as part of the grand plan by China to overtake the US as an economic world power, because aside from the \$20 million China offered WHO in March, China was swift to offer an additional \$30 monetary aid to the WHO immediately Trump threatened to halt financial help to the body. Trump's decision might suffer some moral convulsions, but sadly too, WHO has failed in terms of providing the right leadership. More damaging is the fact that, it helped China, where the crisis originated, to cover its tracks. while WHO vehemently resisted naming Corona-virus as “Wuhan-corona-virus” or “China-corona-virus” in Nigeria, the body watched while Lassa, a community in Southern Borno, Borno State where a certain fever broke out was named after the disease “Lassa Fever”. Till date, Lassa Fever is used in all WHO documents for the hemorrhagic sickness. The silence of the number one health organisation amidst this discrimination calls to question its sense of fairness, equity and justice. Perhaps, diseases that are not on a large scale domiciled in Black Africa have no commercial value and deserve no attention. One clear lesson for the African Union (AU) and Economic Community of West African States (ECOWAS) is that they should use this COVID-19 experience which has shot medical tourism abroad on the foot to rally round Madagascar and other countries with the potential for local solutions to the disease to find homemade solutions to every problem. The content of COVID-19 predicament is more than what we see with our eyes.¹⁴

Indeed, African Traditional Herbal Medicine has contributed so much to health care delivery in many communities in Africa which comprises of many rural communities with majority of the entire population and a few concentrations in the Local and the state Government headquarters where modern health services like specialist hospital, Federal

Medical Center and General Hospitals are established. Since such medical facilities do not cover the need of the teaming population who are the rural communities in dire need of such health services, alludes to the fact that there is significant shortage of man power, drugs and equipment's thus the provision of health services is grossly inadequate. In fact, even those in the urban areas still patronize the herbal doctors. The services of the few doctors, nurses and other health personnel are limited to the urban and semi-urban areas to the disadvantage of the population living in the rural areas as is currently applicable to the dreaded COVID – 19 pandemic. These inadequacies have signaled the important role and the involvement of traditional herbal medicine men, whose efforts were until now discriminated and targeted for defamation is now recognized as front line health personnel. This approach reiterates the importance of herbal medicine to the healing and restoration of man's health. Apenda and Adegba observe the practice as devoted to maintaining good health:

This involves detecting and prevention of disease, curing of these disorders for which treatment exists, and amelioration of pains and minimizing of disabilities. Modern medicine has also assumed the task of improving public health by promoting hygiene and standards of nutrition and environment.¹⁵

These herbal medicines are obtainable from herbs, roots, bark of trees, shrubs, plants and animals substances, which abound in the forest could be used as food that could be used for nourishment. In their search for nourishment, Ballick discovers that; primitive humans sampled many kinds of plants. Those that were palatable were used for food, while plants with toxic or unpleasant effects were avoided or used against enemies. Still, other plants: those that produced physiological effects were saved for medicinal purposes. The commonest methods of treating patients consists of medical preparations made of mixture of roots, leaves, barks, fruits, parts of animals and rituals involving offering to the superhuman forces of nature.¹⁶

It is against this backdrop that one can adequately evaluate the contribution of traditional herbal medicine as it positively affects the total well being of the people despite the great challenges in the scientific research and development of African traditional medicine. This calls for the need to find ways of engaging interdisciplinary teams of African scientists and traditional modern practitioners as well as with scientists and practitioners from other lands for the purpose of transforming African herbal drugs and traditional remedies into modern medicines. This blending of knowledge will go a long way to help provide solution to many of the complex medical challenges we have across board. The benefit of which would not be limited only to the urban communities but also to the rural settlements.

Improving Traditional Medicine for Effective Health Care Delivery in the Age of COVID 19 Pandemic

The progression of the traditional herbal industry would be important for effective health care delivery in Africa. The poor ratio of trained doctors to patients in Africa, as well as the preferences of many Africans, for natural medicine over conventional western pharmaceutical treatments, emphasizes the necessity of quality herbal alternative within the continent as about 70 to 80% of Africans rely on traditional healers as their first care givers.¹⁷

Many African healers believe that, every plant has a disease it can help to cure. They believe that there are ingredients in the plants which have the capacity to fight against the

disease. Therefore, many African people use herbal mixtures prepared by they themselves. They could boil some of these herbs and abstract the useful ingredient to help them cure diseases. This struggle for breakthrough in herbal medicine does not end in the fight against COVID – 19. Much of the world still relies on herbs for medicines. Despite their effectiveness, the challenges are that such practitioners are ignorant about what truly work and what does not truly work. There is also the challenge of quality control of products that are not the result of standard production methods. To overcome those deficiencies in a continent that is particularly dependent more on herbal medicine, a group of researchers have embarked on the bid to assemble of a Pan African pharmacopoeia database of plants' with medicine properties each profile will contain descriptions of the plants itself, of its medical properties, and chemical tests that can be used to identify it. This information will help local health workers to check what works from what does not work. It may also increase international trade in African herbal medicines.¹⁸ Therefore, the need for the promotion of herbal healing remedies is more felt today than ever before hence, herbal medication is gradually becoming a standardized practice to achieve effective health care delivery for everyone to enjoy.

In Nigeria, as well as in China, Japan, India and Peru, efforts have been made to identify many roots, barks and herbs as contribution to herbal medicine. For instance, among the Igbo, Iroko, Orji (*Melicia exelsa*) produces cure for malaria, fever and stomach pains. These herbs are soaked in water and taken before breakfast; Usolala-ocha (*Hybanthus anneaspermus*) is another herb which is added to food for pregnant women in order to strengthen the child and prevent after effects as well as treatment of women suffering from paralysis following delivery.¹⁹ Similarly, the Yoruba do not only have the knowledge of various diseases, but they also have numerous formula. For instance, "parunpo" (an assemblage of recipes) has been in existence since 1970s. Parunpo is a pharmacopoeia on the various diseases recognized among the Yoruba, and the various remedies that can be used. In this document alone, there are 600 different remedies for "eda" (leucorrhoea). The other document "Kuseke" (the book of medicine)²⁰ is active like fire and gum powder. It contains numerous instructions for many diseases.

In an interview with few native doctors in Nasarawa State reveal that, there are a number of native doctors who have good knowledge of neuro-anatomy and neurological symptoms and could use traditional herbal medicine to treat them. A traditional medicine man called Nakowa whose herbal medical center was located in Morao, a local Mada village settlement in Gudi District of Akwanga LGC, There are other ones among the Eggon people called Baba Alakyo, were Baba Ajili, whose herbal shrines are located in a local village settlement called ALakyo in Lafia LGC. He has healing centers across Nasarawa north and south senatorial districts especially those places that are predominantly inhabited by Eggon people. There are other herbal specialists like Ajili, Mama Sarah Nalah and mama Mariyamu now late. There are famous bone setting homes across Nigeria, these include; Baba Asoo, the chief priest of the traditional orthopedic center in Ikyogen, near a village called Yelwata along Makurdi road in Guma Local Government Area of Benue State narrated that; this bone treatment center has a history of successes in bone setting and has been in existence for over 200 years, in fact the Germans indicated interest to build elaborate wards to accommodate patients who were receiving treatment at the shrine, unfortunately, the custodians of the shrine turned the offer down for fear and avoidance of impurities that would likely profane the shrine. Other known place are; Tse Gbazun in Tulan Tiev ward and Tse Kwagh Agule in Mbanyange ward all of Logo

Local Government Area of Benue state. Patients whose fracture cases were hopeless in places like Germany, France, etc came to receive their cure from Ikyogen bone setting shrine.²¹ Gbuje in Akwanga LGC is another place that is dependable for the treatment of fracture cases. Some of the herbal doctors have improved their preparation in form of powder, liquids. There are evidences of the use of pills, enemas, infusions and elixirs and evidence of experimental medicine in surgery, orthopedics, gynecology and pharmacology. Surgery has included male and female circumcision, excision of tumors. The alignment of dislocated bones and the treatment of collarbone fractures have been traditionally handled using anesthetics which were derived from plants identified to have pain killing capabilities, thereby contributing to effective health care delivery Nasarawa State. Some of the areas that became well known for certain types of medical expertise are Tse Akaha in Awe LGC of Nasarawa State which known for Orthopedics treatment, anal prolapsed, heart disease, infertility in both men and women. In fact the treatment of patients with cancer, obesity, diabetes and other related ailments have benefited directly or indirectly from traditional African pharmacopoeia through herbs.²² Many of these traditional techniques are still utilized in some areas. In some cases, preparations of medicine may be by burning, grinding or boiling. The particular object or plant may be used in many different types of formula. In each case, what it symbolizes in one way may not be the same thing in another. Accurate pharmacological knowledge about the particular herbal mixture may be necessary if they are to be used nationally in therapy. This implies that plants are used medicinally alone, or in a mixture and the preparations vary in composition from user or user, according to individual preference or availability of ingredients. The same plants may have been used quite differently in Jamaica, India, China, South Africa, Cameroon, Nigeria, depending on the cases in point be it gynecological, pediatric, osteopathy and many other medical problems.

Conclusion

Africa carries unique vegetation which has been an inherited key part of traditional medicinal practices for thousands of years can be part of the solution as a larger amount of its population heavily rely on medicinal plants for their healthcare. This is particularly true in rural areas, where access to basic conventional health care is extremely limited. Herbal medicine has played a substantial role in the discovery of several drugs from plants to treat diseases by traditional healers such as; malaria, pneumonia, dysentery, cancer, spiritual attacks, infertility etc. This shows how the study of African plants gives hope for an accepted cure for COVID-19. Perhaps, as part of effective strategy to contain COVID 19, herbal medicine can be used to improve one's health, reinforce immunity, and stimulate ability to resist the infection. The use of medicinal plants as components African healthcare system is one of the oldest of all therapeutic systems in African tradition. In rural communities, traditional healers are easily accessible, available and affordable health resource and at times the only therapy that subsists.

In the age of COVID 19 pandemic, the promising medicinal plants from the African biodiversity can be developed and checked by the various medical and pharmacological research institutes to authenticate and provide dosages to treat or manage the different infectious and chronic disease conditions. It is encouraging that there is currently a renewed interest in African-plant-based medicines in the prevention and cure of various pathologies. Medicinal plants still play an important role in healthcare system in African countries. Nevertheless, there are some challenges that need to overcome and address for

its full acceptability as effective treatment of diseases as plant products have not been validated thoroughly with robust scientific criteria to compete with conventional therapies²³. If access and benefit sharing of African herbal products is to increase, the issues of sustainable use and development of plant products need to be addressed.

Recommendations

The following recommendations if achieved would put African heritage in herbal medicine in an admirable position in World health care system, perspectives in this area include but not limited to the followings:

- i. African All countries should seek to recognize traditional medical practice by encouraging documentation and putting out regulations and policies that will be fully implemented to ensure that the traditional herbal/medical practice are qualified and accredited but at the same time pay respect to their traditions and customs. They should also as a matter of necessity issued with authentic licenses to be renewed frequently.
- ii. Government should provide an enabling environment to promote capacity building, research, and development, as well as production of traditional herbal medicines of high standards.
- iii. The importance of traditional herbal medicine should be harnessed and integrated into the conventional medicine to combat priority diseases such as COVID – 19, malaria, HIV/AIDS, diabetes, sickle cell anemia, hypertension and tuberculosis etc.
- iv. Raising the standards of African traditional herbal medicine to international standards through inter-country collaboration.
- v. Herbal medicine should be encouraged since it has played a substantial role in the discovery of several drugs from plants to treat diseases by traditional healers such as; malaria, pneumonia, dysentery, cancer, spiritual attacks, infertility etc.
- vi. As part of effective strategy to contain COVID 19, herbal medicine can be used to improve one's health, reinforce immunity, and stimulate ability to resist the infection.
- vii. In the age of COVID 19 pandemic, the promising medicinal plants from the African biodiversity should be developed and checked by the various medical and pharmacological research institutes to authenticate and provide dosages to treat or manage the different infectious and chronic disease conditions.
- viii. Concerted effort should be made to address some challenges that need to be address for its full acceptability as effective treatment of diseases as plant products have not been validated thoroughly with robust scientific criteria to compete with conventional therapies.
- ix. The issues of sustainable use and development of plant products need to be addressed if access and benefit sharing of African herbal products is to thrive.
- x. Ensure strict adherence to the globally acceptable best practices such as frequent washing of hands, use of spirit based hand sanitizer, wearing of face masks and maintenance of social distance. This will go a long way in reducing the rate of spread of the disease

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