

Review Article

Impact of Covid-19 on Ginger Export, a Root Crop as Traditional Remedy for Covid-19

Patricia Ayihey

University of Hradec Kralove, Czech Republic

*Corresponding Author: Patriciaayihey25@gmail.com/ayihepa1@uhk.cz

Received: 28-5-2020
Revised: 26-6-2020
Published: 6-7-2020

Keywords:

*Covid-19,
Ginger Export,
Traditional Remedies,
Global Economy*

Abstract: The World Health Organization (WHO) since its foundation in 1946 has worked for the improvement of global health and the fight against infectious diseases by bringing out preventive measures to curb the spread of viruses while working on approved medicines and vaccines to help heal infected people. The novel Covid-19 pandemic has currently affected almost every country in the world, and it has greatly caused an effect on the global economy at large. While the World Health Organization is bringing out the specific initiative to address this targeted global health problem, many individuals are also relying on traditional methods to immune their systems as well as protect themselves from contracting the Covid-19 virus. Although, the WHO has declared that these traditional remedies are not certified and approved by the organization, the uncertainties and spontaneous reaction of people not to become victims of the Covid-19 virus employs these traditional remedies, although they are not certain about its effectiveness. This study explores the increase demands for ginger as a root crop to help boost the immunity of the body against the Covid-19 virus, as well as reveal the impact of the Covid-19 on the global economic export of ginger in the global market. The increase in the prices and demand of ginger in some countries in the world can fundamentally be credited to two fundamental factors. The first being the effect of the novel Covid-19 pandemic on international ginger trade, whereby there was an increase in the logistics costs since most borders and countries were under lockdown, and workers were self-isolating themselves from contracting the virus which in the long term resulted to the limited supply of goods for export. The second factor is attributed to the hearsay and tittle-tattle in some countries that ginger can be used as a therapeutic for the novel Covid-19 virus. This article has revealed that the Covid-19 pandemic has affected the export of ginger from China. China which happens to be the largest international export country to export ginger globally experienced a decrease in the quantity of ginger exportation during the first quarter of 2020. However, the inability of China to export enough ginger has paved way for other countries such as Peru, Indonesia and Germany, Spain, and Turkey to increase in the export of their ginger to other countries. The increase in demand of ginger in this Covid-19 season is attributed to the ideology of consuming such root crop to boost the immune system of people. This paper argues that irrespective of the WHO unapproved use of ginger as a traditional remedy to cure the virus, people are still using this indigenous skill of herbal healing to boost their immune system. This provides reassurance and safety to people's health. This assurance of the benefits derived from ginger consumption has led to an increase in demand for it, which has also increased in the global economic impact on ginger export.

Cite this article as: Ayihey, P. (2020). Impact of Covid-19 on Ginger Export, a Root Crop as Traditional Remedy for Covid-19. *Journal of basic and applied Research in Biomedicine*, 6(1): 25-31



This work is licensed under a Creative Commons Attribution 4.0 License. You are free to copy, distribute and perform the work. You must attribute the work in the manner specified by the author or licensor.

INTRODUCTION

Coronavirus is a pandemic that is sweeping the globe (Li et al., 2020). According to Mousavizadeh and Ghasemi (2020), the present-day Covid-19 is a novel coronavirus with an epidemic of atypical viral pneumonia which causes vertebrate diseases in human beings. The coronaviruses are parts of the subfamily coronavirinae in the family coronaviridae and the nidovirales (Mousavizadeh and Ghasemi, 2020). The current novel coronavirus outbreak is theorized to have emanated from the Wuhan-China, specifically from the wild food and seafood wet market (Chen et al., 2020; Mousavizadeh and Ghasemi, 2020). This coronavirus pandemic has proliferated to almost every country on the globe and the World Health

Organization has considered it as a crucial public health issue which needs an urgent intervention (Li et al., 2020). The World Health Organization (WHO, 2020a) indicates that some people who get infected with the Covid-19 virus are likely to experience mild to moderate respiratory illness, and these people recuperate without requiring any special treatment. However, people who are aged and those with underlying medical problems such as cardiovascular disease, diabetes, chronic respiratory disease, and cancer are more prone to develop serious illness when infected with the Covid-19 virus (WHO, 2020a).

The Covid-19 pandemic is considered an emergency health problem because it poses a threat

to the lives and health of people, as well as the livelihoods and economy of every country. Alwis et al. (2020) argue that this acute respiratory illness is placing countries in unpremeditated stress, where many countries, people and their economies, are spiralling towards recession in the fear of this new life-threatening disease. Similarly, Holmes et al. (2020) discuss that the coronavirus prevalent is having an extreme effect on every facet of societies, including political, educational, global economies, the psychological wellbeing of people, and the physical health. To curb the situation and the spread of the virus, many countries have resulted in lockdowns of country borders both land, sea, and air, and quarantining people who are infected with the virus. Aside the preventive measures underline by World Health Organization in mitigating the spread of the virus which includes wearing of protective masks, regularly washing the hands with soap under running water, frequently sanitizing the hands with alcohol-based sanitizers, the practice of social distancing in a crowded area, and avoid touching contaminated objects people are relying on traditional methods to boost their immune systems.

This paper employs a desktop study approach with careful deliberation as to the quality of the sources of information to use for the study. To give accurate information for the Global economic impact on ginger export and ginger consumption as an assumed traditional remedy for Covid-19, I relied on reliable sources given the general fluctuation of information concerning Covid-19.

QUARANTINE AS AN INITIAL OPTION OF CONTROL OF THE COVID-19

When an unknown disease or virus appears, the first recourse for control is limited. Due to the inefficacy of an efficacious treatment or vaccine, countries and public health managements result to the implementation of policies or guidelines on people and states to help manage the unknown disease, especially in areas with identifiable high-risks of infected people (Lloyd-Smith et al., 2003). Concerning this current Covid-19 pandemic, to curb the situation of the virus from spreading, many countries have resorted to quarantining people or regions that have been infected with the virus. Over the years, quarantine has been the proposed mechanism that helped to control potential health disasters such as severe acute respiratory, influenza, ebola, among others (Reynolds et al., 2008). The essential characteristics of the quarantine are the making of boundaries to separate the contaminated from the uncontaminated (Brooks et al., 2020; Fox et al., 1986). In present times, people from areas or countries with the cases of Covid-19 returning to their home country or any other country are placed

under strict quarantine. Some countries expect that these people self-isolate themselves or in some cases the country quarantine such people in state-run facilities for 14 days until they are sure they are not carriers of the virus. The action on quarantining differs in each country. In the case of Ghana, people returning from any country during this period are compulsorily quarantined in a state-run facility. In the Czech Republic, for instance, people returning to the country have to show a Covid-19 test certificate which is not more than four days old indicating that the people are not infected with the virus before they can be granted access to the country. Brooks et al. (2020) argue that the uncertainties over the disease status, the isolation from families and loved ones, and boredom can create a psychological effect on an individual's life.

LOCKDOWN AS AN IMMEDIATE RESPONSE OF COVID-19

Globally, as of 6:44 pm CEST on the 5th June 2020, 6,535,354 confirmed cases of Covid-19 including 387,155 deaths were reported to WHO, with the Americas having the highest confirmed Covid-19 cases 3,084,517 and Africa with the least confirmed cases of 121,104 (WHO, 2020a). Unites States of America is leading with the highest confirmed cases of 1,872,660 and the highest deaths of 108,211 as at CEST 1:34 am on June 6th 2020 (CNA, 2020).

In the 210 countries affected by the Covid-19 pandemic, the lockdown has been as an immediate response to these countries. Ghana's first Covid-19 cases were first confirmed on the 12th March 2020, a day after the president announced the 100 million US dollars available towards the country's preparation to fight the coronavirus. On March 15, when the confirmed cases of Covid-19 were six, the president of Ghana in a press briefing outlawed all public gatherings, comprising church activities, political rallies, funerals, weddings, conferences, and schools, among others to minimize the spread of novel Covid-19 pandemic (CNR, 2020). In addition, all of the county's borders on land, sea, and air were closed for a fortnight from midnight of Sunday the 22nd of March 2020 (GraphicOnline, 2020). The preventive measures employed by the president of Ghana aimed to reduce and possibly halt the importation of the virus from other Covid-19 affected countries so that they can manage and contain the spread of the virus in Ghana. The preventive measures brought to bear also aimed at ensuring that adequate care is rendered to people who are already infected with the virus since the country does not have enough facility for Covid-19 virus should they be overwhelmed by the increase of the virus in the country. Furthermore, the quick management policies for the Covid-19 virus were implemented to make an avenue for the

government to seize the opportunity rendered by the emergency to expand and develop other hospitals that can be designated as Covid-19 facilities (DailyGuide, 2020). Thereafter, on 27th March 2020, there were constraints on the activities of people in some selected regions in Ghana, including the Greater Accra and Ashanti Regions. The contiguous districts within the aforementioned regions were on a 21-day lockdown (CNR, 2020). The lockdown in Ghana's biggest populated regions became intolerable to most people financially, since most of the people were not engaging in their daily activities which gave them their regular incomes because they were self-employed. This financial concern made the government lift the restrictions in April although there are still some other regulations the government is implementing to curb the Covid-19 virus.

Just like the case in many other countries in the world, the novel pandemic has had many serious economic effects on most countries. Measures such as travel restrictions, contact tracing, closure of some businesses, border bans and restrictions. Many employments and local businesses have been affected by this pandemic. The Czech Republic, one of the Schengen countries in Europe to close their border early when the pandemic hit the neighbouring countries has been economically hit by the Covid-19 pandemic. As of 2019, the GDP of the Czech Republic was \$246.70 billion (USD) which represented 0.2% of the world economy, and earlier studies have shown that the Czech economic growth has slowed down from 2018 (2.8 % to 2.4%) last year and experts believe that the economic growth could fall below 2% this year as a result of the novel Covid-19 pandemic (Andoh, 2020).

THE TRADITIONAL REMEDY TO COMBAT THE COVID-19

Since the beginning of human history, traditional remedies have been used to cure various diseases, especially in Africa and Asian countries. Aside from curing diseases, the formulation of plants and herbs which include roots, bark, leaves, seeds, and fruits of plants are used to increase one's longevity. In some parts of Africa and elsewhere, some traditional herbal medicinal products are approved while some others are not approved but are effectively healing people's illnesses. Although it seems many developed countries in Europe and North America are not enthused about the usage of herbal medicines, these developed countries and regions use them as a regulated dietary supplement made from plants (Tyler, 2000).

Traditional medicines over the years have maintained popularity because of the cultural and historical reasons associated with them. Although more scientific research needs to be done on the

efficacy of these herbal medicines before consumption, many people in the developing countries prefer using them because of their low side effects and the assurance of protection it offers the consumers as compared to the consumption of the orthodox medicines. In this present Covid-19 pandemic, some people believe that the consumption of some herbal medicines can cure the Covid-19 virus. Given this, in Madagascar, most people consume the Herbal tea named Covid Organics which was promoted by President Andry Rajoelina as a cure for the Covid-19 virus (CNA, 2020). Although the tea lacked scientific testing, it is currently widely circulated across Africa. Tanzania's president John Magufuli, for instance, demanded the supply of such medicine, and in the same manner other countries such as Equatorial Guinea, Democratic Republic of Congo, Gabon, and Guinea-Bissau are requesting for the supply of the Covid Organic herbal tea (CNA, 2020). Although the World Health Organization has published an alert in response to the manufacturing of the Covid Organics drink, and that all other herbal remedies and plants should be proven for efficacy and detrimental side-effects (WHO, 2020b) people are stiff-necked to that alert (CNA, 2020).

INDIVIDUAL RESPONSE TO BOOSTING THE IMMUNE SYSTEM AGAINST CONTRACTING THE COVID-19 VIRUS

Ginger and Garlic and its health benefit in the diet are being used as a traditional remedy to combat the Covid-19. Following the inception of the Covid-19 pandemic in Africa, there have been videos on social media handles asserting that garlic, ginger, lemon, and the consumption of hot water can be used to cure a person who is infected with the Covid-19. In countries such as Ghana, Cameroon, Ivory Coast, and Nigeria, similar videos of concoctions being made from ginger and other herbs were shared on WhatsApp platforms as a remedy meant to combat coronavirus (Observers, 2020). Ginger, garlic, and lemon are good to immune the human body since they contain antioxidants such as magnesium, zinc, calcium and other vitamins such as vitamin A, B1, B2, C, D, E that can help to slow or prevent damage to cells when one is infected with the Covid-19 virus (Ware, 2018). These plants and herbs serve as dietary supplements for boosting the immune systems and help to produce free radicals for the body against inflammatory diseases. Most Ghanaians over the past have relied on traditional remedies to mitigate most illnesses including inflammatory diseases and any other illnesses. Some individuals drink water with honey, lime, ginger and garlic to cure the cold, cough, catarrh, and flu and they get better, and the use of this same ideology is incorporated into people that the

consumption of ginger and garlic concoction can cure the Covid-19 (Ghanaian Times, 2020). In Ghana, to discourage the state from falling prey to the assumption that Covid-19 can be cured by the use of ginger and other concoctions, the Ghana Food and Drug Administration (FDA) released an official statement setting out that being the only administrative authority that endorses any clinical remedy of a new medicinal product in Ghana, it had NOT endorsed any clinical remedy for Covid-19 by the use of any herbal therapeutic remedy (AllAfrica.com, 2020). Although, the World Health Organization agrees that eating garlic and ginger are healthy diets that may have some antimicrobial properties; however, it does not have any evidence suggesting that consuming ginger or any other plant or herbal medicine can cure or protect people from the current Covid-19 virus (WHO, 2020b). Wintle (2020) argues that anything that is not menacing but has a positive effect on a person's health, which makes a person feel better or provides reassurance or believes can certainly have a positive impact on such person's health. Notwithstanding the position of the WHO that the assumed traditional remedies people are propagating as the cure for the novel Covid-19 virus is not scientifically tested and proven, the WHO acknowledges the medicinal qualities of these herbs and root crops which have seen mass purchases in the supermarket shelves of many countries.

SPONTANEOUS REACTION OF PEOPLE IN PANIC BUYING DURING THE FIRST CONFIRMED CASES OF COVID-19

In many countries, when the government announced that there would be lockdown or quarantine for the country, many people engaged in panic buying for the fear of uncertainties and many grocery shops in some countries were virtually empty. The prices of items increased than the usual. According to Chen et al. (2020), the abnormal prices of foodstuff is not a new phenomenon when there is a lockdown or mass quarantine. In 2014, when ebola began to hit Guinea, Sierra Leone, and Liberia, and appropriate measures were being put in place to contain it, the prices of rice in those countries began to increase by 30% and the prices of cassava which is the major staple in Liberia increased by 150% (Chen et al., 2020). This puts a lot of pressure and psychological stress on the vulnerable populations including the unemployed, the elderly, and those with low income.

In the case of the people in Jakarta, the capital of Indonesia, when the first announcement of Covid-19 confirmed cases on March 2, 2020, was made by the President Joko Widodo people engaged in panic buying. Unlike other countries where people emptied grocery shops by buying almost everything needed for livelihood, some people in Jakarta

hoarded medicinal supplies while others hoarded medical plants and herbs hypothesis to be effective in protecting people from viral infections (The Jakarta Post, 2020). Due to that the vendors of those medical plants especially the Jamu medicine complained that the price for red ginger which was an important ingredient in this medicine increased. The price of red ginger has been the most affected, rising from Rp 30,000 (US\$2.10) per kilogram to Rp 50,000 per kilogram. In like manner, the prices for aromatic ginger increased from Rp 35,000 per kilogram to Rp 42,000 per kilogram. Moreso, the Javanese ginger was affected in pricing whereby the price of the aforementioned ginger rose from Rp 4,000 per kilogram to Rp 12,000 per kilogram (Kombas.com, 2020; The Jakarta Post, 2020). In Ethiopia for instance, it has been reported that due to the shortage of ginger in supermarkets, the prices of ginger has had a three-fold price increment, which has resulted to people around Europe complaining through social media (Wintle, 2020). Similarly, the US "World Daily" reported that due to the impact of the new crown pneumonia epidemic, the New York Manhattan Chinatown vegetable and fruit vendors said that the purchase of garlic and ginger doubled after the Chinese New Year, and the merchants' prices had to rise during the Covid-19 pandemic (STNN.CC, 2020).

Agricultural exports have been obstructed by the outbreak of the novel Covid-19 virus and ginger exports particularly have had a sudden and unexpected improvement. As stated by the customs statistics, ginger exportation in the first two months of the year 2020 has attained a total value of \$93.29 million, with 14.4% higher as compared to the same periods in 2019 (ProduceReport, 2020). In addition, the prices of ginger around the world increased particularly in March when the Covid-19 hit the whole world. The increment of the prices of ginger is attributed to the value of ginger in boosting the immune system of a person to enable them to fight the virus when infected with it. In Australia for instance, the prices of ginger increased to AU\$85 per kg (367 Chinese yuan, \$52), which overtook the price of shrimps. Similarly, in Indonesia, prices of ginger tripled within three days. Simultaneously, prices of one kilogram of ginger in Kazakhstan soared from 1,500 Kazakh tenges (24.3 yuan, \$3.4) to 7,000 Kazakh tenges (113.5 yuan, \$14.8). Within the regions of Russia specifically Samara, Saratov, the Republic of Bashkortostan, and Volgograd prices of a kilogram of ginger skyrocketed to 4,000 Russian rubles (359.3 yuan, \$50.8), while in other areas within the region a kilogram of ginger was sold for an amount of 7,000 rubles (628.7 yuan, \$88.8).

The increase in the prices of ginger in some of the countries in the world can be ascribed to two main factors. First and foremost, the impact of the novel Covid-19 outbreak on international trade, whereby there is an increase in logistics cost to export ginger as well as the limited supply of ginger in the main export countries where ginger are produced since most of the countries resulted to mass lockdown and quarantine to curb and control the virus from escalating whiles waiting on the WHO to provide and approve a drug or vaccine for the Covid-19 virus. The second factor is attributed to the tittle-tattle in some developing countries that ginger can be used as an antioxidant to prevent a person from being infected with the virus. Even though this acclaimed assertion has been refuted by WHO that traditional remedies or ginger consumption do not have a scientific attestation to combat or cure the Covid-19 virus, this information has not stopped some individuals from hoarding ginger or employing their traditional herbal techniques in combatting the virus as they wait for the vaccine for the Covid-19 virus.

COVID-19 INCREASE DEMAND OF GINGER AND GLOBAL ECONOMIC EFFECT

The world production of ginger is estimated at 4-5 million tonnes. India, the largest producer of ginger in the world produces annually of 1.5-2 million tonnes of ginger. China, with an annual production of 1-1.5 million tonnes of ginger dominates the global ginger market and China serves as the world's leading exporter of aromatics. Moreso, Nigeria produces about 0.5-1 million tonnes while Indonesia produces about 0.5 million tonnes. The overall market price for dried ginger is estimated to be at USD 442 million. The demand for ginger specifically in the regions of North American and European is significantly high and increasing globally because this commodity is used in cosmetics and pharmaceutical industries (Times.NL, 2020).

Ideally, the biggest worldwide exporter which is China, with nearly 47% of global exports was predicted to decrease in the 2020 exportation of ginger by 15-20% comparative to the 2018/2019 exportation season because of the floods that affected the ginger production (Jang, 2020). The decrease in Chinese ginger production and exportation led to a significant rise in the prices of Chinese ginger imports in countries such as Vietnam, Bangladesh, and Pakistan. In the case of Vietnam, prices of Chinese ginger soared approximately VND 20K-30K (USD 0.86-1.29) per kilogram at the beginning of February 2020 (Plaza, 2020a). According to Jang (2020), among Bangladesh, Chinese ginger price per kilogram rose by BDT 180-220 (USD 1.14-1.39). Similarly, within some few days the Pakistani prices for

Chinese ginger which was at PKR 400 (USD 2.53) per kilogram increased by PKR 80 (USD 0.51) (Jang, 2020; Plaza, 2020a). The rapid increase in the Chinese ginger prices in the Southeast Asian and Middle Eastern countries are anticipated to stabilize but this was dependent on how quick the Chinese exports will resume to its former state (Jang, 2020).

Despite the prediction to the decrease in the prices of Chinese ginger export in 2020 as a result of the flood they encountered in the 2018/2019 ginger production, the temporary closure of country's borders due to the acute Covid-19 virus also led to a worldwide shortage of ginger in general. The indigenous ginger medicinal beverage which is assumed to increase the immunity of a person's body against diseases plays a significant role in the demand for ginger which has led to an increase in the prices and shortage of ginger in the global market (Jang, 2020). Earlier in late January 2020 to mid-February 2020 due to a decrease in the number of labour in the farms and distribution networks employers were encouraged to stay home (Plaza, 2020a). Likewise, ginger supply in Indian, the second-largest exporter, and Iran, the third-largest exporter further intensified the worldwide shortage as a result of the closure of borders in land, sea and air due to Covid-19 pandemic. In China, for instance, the prices of ginger started soaring around 7-9% each from late January to February, reflecting labour scarcities in farms and delivery networks, as workers were encouraged to stay at home (Plaza, 2020a). The increase in the demand of ginger led to 17% increase in the supply chain at the beginning of February and March as compared to the last month in the year 2019 (Plaza, 2020a; ProduceReport, 2020; Wintle, 2020). Currently, the supply chain of ginger is stabilized and is beginning to fall.

Although, there is an increase in prices of Chinese ginger and a decrease in the exportation of Chinese ginger in 2020 as compared to 2019, the European market demand for Chinese ginger has recently declined as the European countries entered their off-season. Chinese ginger export to Europe subsequently slowed down and the export volume decreased. At the same time, market demand from the Middle East and America grew stronger. In the United States, the US ginger is competing with commodities from China and Latin America. The Brazilian ginger is selling at a relatively lower price compared to the prices of Chinese ginger even before the Covid-19 pandemic due to large production volumes in of the Brazilian ginger in 2019. Although the US ginger prices are recently stable, it is estimated that there would be more request of the US ginger if the Chinese shipment of ginger elongates (Plaza, 2020b).

The closure of the Chinese border and the lockdown of the country have paved way for other ginger supplies in Peru, Nigeria and Indonesia, with comparatively the lower prices they offer as compared the prices of ginger from China. Also, the increase in the demand for ginger resulted in a shift from Chinese ginger and Indian related product in this period. In 2019, the Peruvian ginger was ranked as the third-largest ginger distributor in the world recorded a significant export with a 5% share globally rebounded during the first quarter in 2020. A total of 4,536 tons which amounted to 10 million dollars Peruvian ginger was exported in 2020, equated to 94% more volume and 60% more value than in 2019 (Plaza, 2020b). One of the main countries where Peruvian ginger is exported to is the United States of America. In the period from January to March in the year 2020, North America imported 22,519 tons of Peruvian ginger which amounted for \$ 30.3 million, equated to 3% more volume and 6% more value than the usual export in the same period in 2019 (Plaza, 2020b).

The second most important area where the Peruvian ginger is exported is the Netherlands. In the Netherlands, 75% of all ginger is imported from China (Times.NL, 2020). The limited supply of ginger from China in February resulted in an increment in the price of Chinese ginger in Netherlands. A kilogram of Chinese ginger which was EUR 1.7 (USD 1.93) in late January 2020 soared to approximately EUR 3.15 (USD 3.58). The increment of the Chinese ginger price in Netherlands paved the way for other ginger types from other countries such as Germany, Turkey, and Spain to inflate on the European markets. The increase in request of ginger within the Netherlands and the European market led to a demand of ginger from Peru. In the period from January to March 1,403 tons of Peruvian ginger which amounted \$2.7 million were exported to the Netherlands, and it was 67% more volume and 25% more value than the usual export in the same first-quarter in 2019. In Peru, there has been an increment in the global market share of ginger export from 4% in the period from January to March of 2019 to 8% in the same period of 2020 (Plaza, 2020b).

CONCLUSION

The novel Covid-19 pandemic as waiting for an approved vaccine or drug has had an impact on every aspect of the global economy. The sudden and unexpected impact of the virus has had a tremendous effect on the international exportation of ginger in the world particularly in the first quarter of the year 2020. Due to the values attributed to ginger by some countries who have over the years relied upon the use of traditional medicines to cure illnesses have started encouraging people to consume ginger and other

plants and herbs to boost one's immune system and at the same time to help people from being infected with the virus or possibly curing a person who has already contracted the virus. The aforementioned reasons are also attributed to increase in the demand for ginger. Although the use of ginger and other plants or herbs have not been scientifically proven to be a cure for the Covid-19 virus, the uncertainties of people and the fear of people makes them to still rely on the use of this root crop and other plants as they wait for the approved vaccine or cure. This is people's embodied way of taking care of themselves in a world in which scientific knowledge has failed us for now. Therefore, there is no need to undermine the indigenous knowledge of people on their belief towards health care, although there is a need to keep encouraging them to be alert and cautious when employing this indigenous health care approach to combat the Covid-19 virus.

Moreso, the first approach for curbing any unexpected virus in the world over the years has been quarantine or self-isolating infected people from uninfected people so that the virus can be controlled or tamed from spreading. Given this, the novel covid-19 pandemic has had a toll on every country that almost every country had a lockdown on the country's borders by land, sea and air to prevent more importation of the virus from other affected countries. This lockdown and close of boarders have had an impact in the importation and exportation of goods and ginger is off no exemption. China being the world's biggest export country for ginger could not meet the demand of the people which has resulted to other countries such as Peru, Indonesia, Brazil, Germany, Turkey, Spain and US to rise and satisfy the demands of people. Since most people were asked to stay home these countries were not able to produce ginger as they usually would have done. Therefore, the inability of some mainline suppliers of ginger to other countries paved the way for other countries to satisfy the global market and this has had a positive effect on the economies of those countries in that regard.

REFERENCES

- AllAfrica.com. (2020). *Ghana: COVID-19 Remedies and Cures - Why We Must Be Guided By Facts, Sound Evidence and Adhere to Public Health Measures*. <https://allafrica.com/stories/202004290732.html>
- Alwis, R. De, Chen, S., Gan, E. S., & Ooi, E. E. (2020). Program in Emerging Infectious Diseases, Duke-NUS Medical School, Singapore. Saw Swee Hock School of Public Health, National University of Singapore, Singapore. *EBioMedicine*, 102768. <https://doi.org/10.1016/j.ebiom.2020.102768>
- Andoh, R. (2020). The Impact of COVID-19 on Global Economy: The Case of the Czech Republic The Impact of COVID-19 on Global Economy: The Case of the Czech Republic. *Institute Journal of*

- Multidisciplinary Sciences and Advanced Technology*, 1(May), 22–29.
- Brooks, S. K., Webster, R. K., Smith, L. E., Woodland, L., Wessely, S., Greenberg, N., & Rubin, G. J. (2020). The psychological impact of quarantine and how to reduce it: rapid review of the evidence. *The lancet*, 395(10227), 912-920.
- Chen, K. Z., Zhang, Y., Zhan, Y., Fan, S., & Si, W. (2020). How China can address threats to food and nutrition security from the COVID-19 outbreak. *IFPRI book chapters*, 26-30.
- CNA. (2020). *Novel Coronavirus COVID-19 - Latest news / CNA*.
<https://www.channelnewsasia.com/news/topics/coronavirus-covid-19>
- CNR. (2020). *Coronavirus: Travellers from countries with over 200 cases won't be allowed in Ghana*.
<https://citinewsroom.com/2020/03/coronavirus-travellers-from-countries-with-over-200-cases-wont-be-allowed-in-ghana/>
- DailyGuide. (2020). *President Akufo-Addo's 10th Update On Covid19 - DailyGuide Network*.
<https://dailyguidenetwork.com/president-akufo-addos-10th-update-on-covid19/>
- FOX, D., ROSENBERG, C., SHAPIRO, A., BAYER, R., & KULLER, L. (1986). AIDS: The Public Context of an Epidemic. *The Milbank quarterly*, 64(1), 1-182.
- Ghanaian Times, G. (2020). *Covid-19 Remedies and Cures: Why We Must be Guided by Facts, Sound Evidence and Adhere to Public Health Measures* -.
<https://www.ghanaiantimes.com.gh/covid-19-remedies-and-cures-why-we-must-be-guided-by-facts-sound-evidence-and-adhere-to-public-health-measures/>
- GraphicOnline. (2020). *Ghana closes its borders for 2 weeks to fight Coronavirus - Graphic Online*.
<https://www.graphic.com.gh/news/general-news/ghana-news-coronavirus-borders-closed-directive-will-last-2-weeks.html>
- Holmes, E. A., O'Connor, R. C., Perry, V. H., Tracey, I., Wessely, S., Arseneault, L., Ballard, C., Christensen, H., Cohen Silver, R., Everall, I., Ford, T., John, A., Kabir, T., King, K., Madan, I., Michie, S., Przybylski, A. K., Shafran, R., Sweeney, A., ... Bullmore, E. (2020). Multidisciplinary research priorities for the COVID-19 pandemic: a call for action for mental health science. *The Lancet. Psychiatry*, 0366(20), 1–14.
[https://doi.org/10.1016/S2215-0366\(20\)30168-1](https://doi.org/10.1016/S2215-0366(20)30168-1)
- Jang, H. (2020). *Coronavirus Causes Global Ginger Prices to Escalate - Tridge*.
https://www.tridge.com/stories/coronavirus-causes-global-ginger-prices-to-escalate?utm_campaign=corona_newsletter&utm_medium=email&utm_source=interaction
- Kombas.com. (2020). *Imbas Corona, Penjual Jamu Keluhkan Meroketnya Harga Bahan Baku*.
<https://money.kompas.com/read/2020/03/03/091208926/imbasa-corona-penjual-jamu-keluhkan-meroketnya-harga-bahan-baku>
- Li, N., Liu, T., Chen, H., Liao, J., Li, H., Luo, Q., ... & Luo, G. (2020). Management strategies for the burn ward during COVID-19 pandemic. *Burns*, 46(4), 756-761.
<https://doi.org/10.1016/j.burns.2020.03.013>
- Lloyd-Smith, J. O., Galvani, A. P., & Getz, W. M. (2003). Curtailing transmission of severe acute respiratory syndrome within a community and its hospital. *Proceedings of the Royal Society B: Biological Sciences*, 270(1528), 1979–1989.
<https://doi.org/10.1098/rspb.2003.2481>
- Mousavizadeh, L., & Ghasemi, S. (2020). Genotype and phenotype of COVID-19: Their roles in pathogenesis. *Journal of Microbiology, Immunology and Infection*, xxxx, 0–4.
<https://doi.org/10.1016/j.jmii.2020.03.022>
- Observers, T. (2020). *An infectious disease expert debunks COVID-19 remedies circulating on African social media*. <https://observers.france24.com/en/20200417-fake-covid-19-remedies-circulate-african-social-media>
- Plaza, F. (2020a). *COVID-19 causes global ginger prices to rise*.
<https://www.freshplaza.com/article/9207249/covid-19-causes-global-ginger-prices-to-rise/>
- Plaza, F. (2020b). *Peruvian ginger shipments increase by 94% in 2020*.
<https://www.freshplaza.com/article/9222530/peruvia-n-ginger-shipments-increase-by-94-in-2020/>
- ProduceReport. (2020). *Ginger Exports Unexpectedly Rise, International Prices Soar / Produce Report*.
<https://www.producereport.com/article/ginger-exports-unexpectedly-rise-international-prices-soar>
- Reynolds, D. L., Garay, J. R., Deamond, S. L., Moran, M. K., Gold, W., & Styra, R. (2008). Understanding, Compliance and Psychological Impact of the SARS Quarantine Experience. *Source: Epidemiology and Infection*, 136(7), 997–1007.
<https://doi.org/10.1017/S0950268807009156>
- STNN.CC. (2020). *New York City garlic and ginger prices rise due to new crown pneumonia epidemic*.
<http://m.stnn.cc/pcarticle/721001>
- The Jakarta Post, N. (2020). *Panic hoarding of herbs, medicinal plants amid virus scare takes toll on "jamu" vendors - National - The Jakarta Post*.
<https://www.thejakartapost.com/news/2020/03/03/panic-hoarding-of-herbs-medicinal-plants-amid-virus-scare-takes-toll-on-jamu-vendors.html>
- Times.NL. (2020). *Garlic and ginger prices to rise sharply over coronavirus / NL Times*.
<https://nltimes.nl/2020/02/26/garlic-ginger-prices-rise-sharply-coronavirus>
- Tyler, V. E. (2000). Herbal medicine: From the past to the future. *Public Health Nutrition*, 3, 447–452.
- Ware, M. (2018). *Antioxidants: Health benefits and nutritional information*.
<https://www.medicalnewstoday.com/articles/301506.php>
- WHO. (2020a). *Coronavirus*. https://www.who.int/health-topics/coronavirus#tab=tab_1
- WHO. (2020b). *Myth busters*.
<https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public/myth-busters>
- Wintle, T. (2020). *Enjoy ginger, but it's not a "cure" for COVID-19, says WHO - CGTN*.
<https://newseu.cgtn.com/news/2020-04-03/Enjoy-ginger-but-it-s-not-a-cure-for-COVID-19-says-WHO--Pn0Wuje3UA/index.html>