



# The Impact of Covid-19 on Food Security in a Developing Country: Nigeria

Ogbonna AI<sup>1\*</sup>, Ogbonna KN<sup>2</sup>, Ogbonna USA<sup>3</sup> and Ogbonna CIC<sup>1</sup>

<sup>1</sup>Department of Plant Science and Biotechnology, University of Jos, Nigeria

<sup>2</sup>Department of Criminology and Security Studies, University of Jos, Nigeria

<sup>3</sup>Department of Applied Microbiology & Brewing, Nnamdi Azikiwe University, Awka, Nigeria

**\*Corresponding author:** Ogbonna AI, Department of Plant Science and Biotechnology, University of Jos, Nigeria, Tel: +2348033555188; Email: ogbonabi@yahoo.co.uk

## Review Article

Volume 5 Issue 4

Received Date: August 01, 2019

Published Date: August 20, 2020

DOI: [10.23880/fsnt-16000223](https://doi.org/10.23880/fsnt-16000223)

## Abstract

SARS-CoV2 is a novel Coronavirus identified as the cause of Coronavirus disease 2019 (COVID-19) that originated in Wuhan, China in late 2019 and spread worldwide. The virus causes severe respiratory infection and is zoonotic; SARS-CoV2 is transmitted person-to-person through aerosols and droplets from infected persons. The outbreak was declared a Public Health Emergency of International dimension on 30 January 2020. By March 11, 2020, the World Health Organization (WHO) had declared the novel Coronavirus (COVID-19) outbreak a global pandemic. Till date, a functional vaccine is yet to be found for the disease. A series of containment measures have been implemented by various Governments such as social distancing, regular washing of hands with soap under running water, use of nose masks especially in public places, use of hand sanitizers, border closures and finally a total lockdown in many Cities Worldwide. The disease outbreak has had severe impact on both the social life and the economic well-being of many countries. The pandemic has resulted in very serious food crises in many Developing Countries as farmers no longer produce and there is a total restriction in the movement of food products as a result of the lockdown. More people are dying of hunger than COVID-19. The real impact of post- COVID-19 might be very difficult to assess as no one can predict the end of the pandemic. However, the economies of many Developing Countries are likely to crash and there is likely to be famine in such Countries. It is most unlikely that Developed Countries can give readily helping hands as they are going to be faced with their own individual Social and Economic problems.

**Keywords:** Coronavirus; Zoonotic; SARS-Cov2; Wuhan; WHO, Disease; Developing Countries Public Health

## Introduction

Coronaviruses are enveloped RNA viruses that cause respiratory illnesses of varying severity from the common cold to fatal pneumonia. They included (SARS-CoV) identified in 2003 as the cause of Severe Acute Respiratory Syndrome (SARS) and MERS-CoV which was identified in 2012 as the cause of Middle East respiratory syndrome (MERS). COVID-19 is an acute, sometimes severe, respiratory illness caused by a novel Coronavirus SARS-CoV2 that began

in Wuhan, China in late 2019 and is now of international dimension. The outbreak was declared a Public Health Emergency of International Concern on 30 January 2020 and by March 11, 2020, it had been declared a global pandemic by same WHO [1].

Early COVID-19 cases were linked to a live animal market in Wuhan, Hubei Province, China, which suggested that the virus was initially transmitted from animals to humans [2]. Person-to-person spread occurs through contact with

infected secretions, mainly via contact with large respiratory droplets from infected persons. Infection could also take place through contact with contaminated surfaces. Researchers are still assessing the real mechanism of spread of this disease from person to person. It is known that symptomatic, as well as asymptomatic and pre-symptomatic patients can transmit the virus. The virus appears more transmissible than SARS-CoV.

High-spreaders played an extraordinary role in driving the 2003 SARS outbreak and may also play a significant role in the current COVID-19 outbreak. A high-spreader is an individual who transmits an infection to a significantly greater number of other persons. Persons with minimal or no symptoms may also be able to transmit the disease, thus making it difficult in terms of management of the outbreak.

Environments with high risk of transmission include Nursing Homes, Hospitals, Long-term Care-establishments, Prisons, and Large gatherings, Beaches, City Centres, Big Open-markets, Motor Parks and On Board Ships. Such Environments have high population densities where it is often very difficult to enforce precautionary measures.

Menon reported that, there are a total of 2, 476,916 cases of COVID-19 with about 170, 297 deaths in 185 countries. The authors also reported that the health-care systems throughout the World have been over-stretched to unimaginable levels as the health workers toil to contain the epidemic under significant personal risks. Quarantine and isolation measures are being applied in an attempt to limit the Local, Regional, and Global spread of this outbreak. Strict adherences to these measures have been successful at controlling the spread of the infections and deaths from the pandemic. Other measures including closure of Businesses, Working from homes and stay at home restrictions and even domestic travel restrictions have in certain cases led to family separations. The disease pandemic has resulted in income reductions, non-salary payments and increased unemployment. People have found it very difficult obtaining basic amenities including food and drugs,

### Symptoms and Signs

People with COVID-19 may be symptomatic or asymptomatic and some of them can suffer from very Severe Respiratory and other illnesses. Symptoms range from Fever, Cough and Shortness of breath or difficulty in breathing, Repeated Shaking with Chills, Fatigue, Sore throat, Nausea, Vomiting, Diarrhea and Loss of Smell or Taste. The Respiratory Diseases can progress to acute Respiratory Distress Syndrome (ARDS) and Death. Other serious complications may involve: Heart disorders including Arrhythmias, Cardiomyopathy,

and Acute Cardiac injury, Coagulation disorders including Thromboembolism and Pulmonary Emboli. There could be Disseminated Intravascular Coagulation (DIC), Hemorrhage, and Arterial clot formation. The disease could be associated with Guillain-Barré syndrome (rare), Sepsis, Shock, and Multi-organ failure. Severe disease could be characterized by Dyspnea, Hypoxia, and extensive lung involvement on imaging. Such can progress to respiratory failure requiring mechanical ventilation, shock, multi organ failure and death. A rare Post-infectious inflammatory syndrome termed pediatric multi-system inflammatory syndrome (PMIS or MIS-C) has been observed as a rare complication of SARS-CoV-2 infection in children. It is not yet well characterized but has features similar to Kawasaki disease or toxic shock syndrome.

The incubation period of the disease ranges from 2 to 14 days after exposure to the virus. Majority of infected people are asymptomatic. The risk of serious disease and death in COVID-19 cases increases with age and in people with other serious medical disorders such as heart, lung, kidney, or liver disease, diabetes, immune-compromised conditions and severe obesity.

### The Effects of COVID-19 on Food Systems and Nutrition in Nigeria

COVID-19 has led to disruptions in domestic food supply chains apart from other shocks that have been affecting food production. Income losses and inabilities of various Governments, Corporations, Agencies, Firms and other Industrial Establishments to pay monthly salaries have further complicated issues for income-earners in terms of food security. World Health Organization [1] reported that Labour shortages due to morbidity, movement restrictions and social distancing rules are starting to impact on food producers, food processors, food merchants and things are rather at a stand-still. Food Companies that are involved in food haulage chains can no longer operate. This is because the workers needed for both the loading and off-loading the food products are no longer available because of the lockdown. These factors have led to the sky-rocketing of the prices of the scarce food and food products available. Farmers can no longer go to their farms especially where such farms are far away from their residential homes. Such has therefore impacted on the food security of the people. This has further influenced the food production chain and its attendant distribution network thereby leading to instability in both local and global markets [3]. The lowest income-earners in Developing Countries are the most hit in the process. The absence of farmers from their farmlands has made robbers have a field day and this in fact has worsened the issue of the said food security.

## Changes in Eating Habits

From a nutritional point of view, the COVID-19 pandemic has had implications for Developing Countries like Nigeria in terms of food habit changes. Even before the pandemic, such Countries had had most of their Nationals suffering from the multiple burden of malnutrition. Most of the Nationals were subjected to micronutrient deficiencies. The determinants of this multiple burden are complex and likely to be further compounded by the pandemic. Widespread poverty, unemployment and low education have negatively impacted on house-holds food securities. As a result of the lockdown, the eating habits of so many people in Developing Countries like Nigeria have changed. Many people have little money to eat more than twice a day. Many women stay hungry and pretend that they want to become slim. According to a recent survey, 26 % of women in Nigeria claim that they are on diet and that is why they eat once or twice a day. However, this is not true. Most of these women are either cashless or have no money for purchasing food.

Some men who are financially handicapped have taken to alcoholism in order to forget about their sorrows. Many of them have become victims of liver lesions as their daily consumption of alcohol reach a level of 60 g pure ethanol. The level at which impairment of intellectual faculties occur is lower than that for liver disorders.

Good nutrition is critical for the functioning of humans' immune system and protection against diseases such as COVID-19. The WHO guidance on diet in the context of the current pandemic outlines that "good nutrition is important for health, particularly in times when the immune system may need to fight back". Diet and attitude to food may have a role in the etiology of some cancers. Epidemiologists have already noted that incidence of cancers varied within human groups and that the variations in their frequency were seen to be as a result of changes in diet [4]. While more data needs to be gathered on the role of nutrition on the severity of COVID-19, the role of micronutrients in the optimal function of immune systems is well established. Quantitative nutritional needs of the people cannot be met neither can the people satisfy the qualitative nature of their foods. People eat whatever they can lay hands on in terms of food in order to keep body and soul together. Some children whose parents are unable to feed have resorted to feeding from domestic waste dumps. The protein content of foods is very low and many Nationals cannot afford to buy meat [5-13].

Agricultural products-based industries can no longer produce because of lack of raw materials. Such has therefore led to the sky-rocketing of the prices of the few available agricultural products in the super markets which in turn has affected the nutritional needs of the people.

## Conclusion

There is no Inter-State movements of people and the transportation of foods from one State to another is restricted and such factors have therefore led to price increases and food items are no longer within the reach of an ordinary man. There are little or no Government palliatives to alleviate the people's hardships.

The short-term and long-term effects of COVID-19 pandemic on food security and food systems in general cannot be over-emphasized. As the situation evolves, it presents new challenges. The farmers' inability to produce and distribute their farm products has resulted in the insufficiency of nutrient rich foods in the markets. COVID-19 is expected to impact negatively on food availability and even peoples' access to fresh and perishable foods such as tomatoes, vegetables, pepper, onions and fresh fruits. Presently, the rainy season is here but owing to Border Closures and Cities Lockdowns, Agricultural activities are in the down trend and this in turn will affect Agricultural productivity and hence food availability. Fertilizers cannot reach the farmers since there are restrictions both in human and goods traffic. There is a serious danger of famine in Developing countries ahead and there can be little or no help from Developed countries as they have their own individual problems. The Post-COVID-19 period is indeed going to be a very tough one for Developing Countries.

## Recommendations

1. The Government should allow the free movement of raw materials and manufactured goods provided the people involved meet up with the Stay Safe requirement of COVID-19.
2. The Government should find a way of providing palliatives to at least the lowest income earners as a means of reducing their sufferings.
3. The Government should ensure that the commonly available foods are well fortified with vitamins and essential food minerals so that the people do not suffer from malnutrition.
4. The Government should improve on their food storage facilities and encourage the setting up of strategic food reserves for use in terms of emergencies like COVID-19 pandemic.

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