Abstract

Food security and nutritional intake is one vital phenomenon in every human life and should not be handled with kid gloves. This study aimed at empirically analysing food and nutrition dynamics in post Covid-19 pandemic. The study adopted descriptive survey research design. The population of the study was 100 respondents randomly selected among individuals and households at Isieke village in Asaba. The stratified sampling technique was adopted for the study. The Chi-Square test was essentially used to determine whether all of the people and households encountered problems with food security and dietary intake post covid-19. The findings of the study revealed that the levels of food security and dietary consumption were respectively, 0.219 and 0.036. The post COVID-19 dynamics reaction major, however, has little to no impact on the individual and household level. Even though many people asserted that the lockdown action had an adverse effect, our research found that the adverse effect of the dynamics of covid-19 was felt minimally post pandemic. The study concluded that food and nutrition were not fully affected by lockdown measures during COVID-19; rather, the post-COVID-19 period brought with it the significant difficulties that endangered household and individuals. The study recommended the improved protections for farmers and other marginalized workers in the food chain who are disproportionately impacted by the crisis and encourage more resilient and diverse distribution networks, including localized marketplaces and shorter supply chains.

Keywords: Covid-19, Dynamics, Food, Nutrition

Introduction

The pandemic has caused food insecurity in 83-132 million people, including 38-80 million in low-income countries. The COVID-19 pandemic has had a significant impact on nutrition and food security. Through a number of dynamics, the crisis is affecting food systems and endangering people’s access to food. In the wake of lockdowns brought on by the worldwide health crisis, we have observed not only a significant disruption to food supply systems but also a significant global economic downturn. As a result of these crises, some goods are now more expensive and out of reach for many people, weakening their right to food and delaying attempts to achieve Sustainable Development Goal (SDG) 2: “Zero Hunger.” There is a lot of uncertainty in the scenario, which is fluid and dynamic. The worst repercussions are yet to come, according to the World Health Organization. Most health experts anticipate that this virus will spread for at least another year or two.

These trends pose significant concerns to nutrition and food security. According to the most recent Status of Food Security and Nutrition report (FAO et al., 2020), almost two billion people already experienced moderate to severe food insecurity prior to the start of the pandemic. These figures have risen steadily since 2014, increasing by 60 million in that time. The COVID-19 pandemic is harming SDG implementation attempts. Lockdowns designed to limit the disease are setting the stage for a significant disruption to food systems, which will result in a sharp surge in hunger. According to the most recent projections, between 83 and 132 million extra people will experience food insecurity as a direct result of the pandemic (FAO et al., 2020), including 38-80 million people in low-income countries that depend on food imports (Torero, 2020). Due to the pandemic’s secondary socio-economic effects, at least 25 nations, including Lebanon, Yemen, and South Sudan, are at risk of having their food security significantly deteriorate (FAO and WFP, 2020). In 2020, the amount of individuals in Latin America in need of food aid nearly tripled (UN, 2020a). With "more than 821 million people chronically undernourished between 2016 and 2018" (FAO,
IFAD, UNICEF, WFP and WHO, 2019) and "over 100 million people in need of life-saving food assistance," the percentage of hungry and malnourished people around the world was already on the rise prior to the COVID-19 outbreak. If immediate action is not done, the COVID-19 epidemic would undoubtedly increase the trend of food insecurity. COVID-19 has potential economic and food insecurity, compared to the 2007-2008 financial crisis. Nutritional habits are the second-most significant risk factor for mortality and disability-adjusted life years globally, according to the Global Burden of Disease Study 2016 data (GBD, 2016). So, any change in nutrition will have a big effect on one's health, both now and in the future. On the other hand, populations with and without clinical symptoms may benefit therapeutically from changes in nutritional behavior.

The spread of the coronavirus disease 2019 (COVID-19) at the end of 2019 and throughout 2020 has had a significant negative impact on global health that has not been observed in at least a century. Far into 2021 and maybe even 2022, this has persisted.

Given the positive and negative relationships between nutrition and morbidity and mortality, it is important to investigate the potential effects of COVID-19 on dietary practices as well as, conversely, the influence of nutrition on the epidemiology of the COVID-19 pandemic. This study aims to assess food and nutrition dynamics in post COVID-19 era

Objectives
The specific objective is to:
i. determine the effect of post dynamic of COVID-19 pandemic on food and nutrition.

Research questions
i. To what extent does the post dynamics of Covid – 19 pandemic affect food and nutrition?

Research hypothesis
Ho: There is a significant relationship between post dynamics of covid-19 pandemic with food and nutrition.

Literature Review
Nigeria's COVID-19 outbreak
Nigeria faced an extraordinary difficulty with COVID-19 because of its size, population, and economic reliance on the sale of crude oil. Nigeria reported its first coronavirus (COVID-19) infection on February 27, 2020, according to the Lagos State Ministry of Health. The pandemic's prevalence was first very modest, then it entered an accelerated phase during which the virus spread rapidly throughout the population. The Nigeria Centre for Disease Control (NCDC), which is in charge of providing daily updates on the COVID-19 situation in Nigeria, reported a total of 92,705 confirmed COVID-19 cases, 14,990 active cases, 76,396 discharged cases, and 1319 fatalities as of 5 January 2021 across all 36 states and Abuja. As of January 5, 2021, 21 states had reported 1,354 new cases of the virus, the largest day total since the virus's emergence (NCDC 2021).

The impacts of the COVID-19 virus went beyond a shock to the actual economy's fundamentals (such as interest rates, GDP growth, and inflation level), but rather a shock to the market that creates "a divider between supply and demand," with difficult commensurate adjustments in the real economy. Reduced demand and significant destruction of economic surplus result from decreased food supply (Surico and Galeotti 2020). Compared to the period prior to the COVID-2019 pandemic, when individuals spent more money on food, worldwide food consumption has decreased due to rising prices for basic commodities such vegetable oils, beef, and cereal (FAO 2020b). Throughout COVID-19, Nigeria's inflation rate remained on the rise. Rising inflation reduces purchasing power, pointing to possible price increases in food due to COVID-19 post period.

The four pillars of the common conceptual framework for food security are availability, access, utilisation, and stability (FAO 2008). In general, availability and food supply correspond. Economic access to markets and effective demand for food are both considered to be aspects of access (physical access). Utilization and stability are somewhat related to dietary quality, although stability emphasizes the dynamic aspect of food security, which over time necessitates stability in the other three pillars. With the disruption of food systems and the unfavorable effects of lockdowns on household incomes and physical access to food, COVID-19 jeopardizes food security both directly and indirectly. Responses to the pandemic and COVID-19 could compromise the marketing, processing, and production of food (Devereux et al. 2020). Increases
in food prices relative to earnings or income pose a threat to access to food. The COVID-19-related restrictions on travel and the closing of unlicensed food markets have an impact on the stability of food access and availability.

**Pandemic predictions from the past**

Even decades after the present COVID-19 viral pandemic has been contained, our history with global pandemics strongly suggests that nutritional status will have substantial ramifications for population health. After being exposed to the virus in utero, during infancy and early childhood, adults 75 years and older were examined for markers of nutritional health. The 1918 flu pandemic had a considerable impact on these markers. A significant growth depression was discovered using knee height as a marker of nutritional status, which was exacerbated by growing flu symptoms (Palloni et al., 2020). Men were less impacted than women. The growth was sluggish, not slight. It took the Dutch population 40 years to expand by the same amount during non-pandemic periods as individuals who contracted the 1918 flu lost (Palloni et al., 2020). This nutritional status indicator may be linked to the prevalence of disease. Those aged 60 to 82 who were exposed to the 1918 flu virus during pregnancy experienced a higher incidence (>20%) of ischemic heart disease much later in the century (Mazumder et al., 2010).

Men were hit more severely than women this time. When analyzing how nutritional state affects disease outbreaks, the 1918 influenza pandemic is not an isolated case. Questionable food security practices, including distribution and food supply issues, have all had an impact on more recent pandemics, including those from the H1N1 influenza, swine flu, the ebola and nipah viruses. This is especially true in Ebola-affected African nations where the pandemic significantly impacted food security and governments seemed unprepared to address the nutritional issues that their populations were confronting and to provide them with nutritional guidance during the pandemic. Malnutrition was the result, especially among the young people in these areas.

Sales of these medications have therefore soared, however questions have been raised about their actual effectiveness against H1N1 in humans. Multivitamin treatment was linked to decreased fatality rates in studies of Ebola virus patients. It is prudent to take into account the probability that the present COVID-19 virus may have had a similar impact on today's population in light of these outcomes following previous pandemics. It would be wise to consider whether the COVID-19 pandemic affected dietary practices in any manner and whether such changes would have an impact on COVID-19 transmission, illness, or mortality.

**Dynamics of nutrition and diet after COVID-19**

The disruption of food supply chains, loss of income and livelihoods, a rise in inequality, problems with social protection programs, altered food environments, and unequal food prices in localized contexts are just a few of the overlapping and reinforcing dynamics that are currently affecting food systems, food security, and nutrition. An outline of these dynamics is given below. As the epidemic spread over its early, medium-term, and possibly longer-term repercussions, these effects took various forms.

**Disruptions to the supply chain**

Following lockdown measures, there have been significant disruptions to the food supply networks, which have impacted the availability, cost, and quality of food. Demand for various perishable foods, such as dairy products, potatoes, and fresh fruits, as well as specialty items like chocolate and some high-value cuts of meat, fell precipitously as a result of restaurants and other food service establishments closing. Lockdown procedures had a particularly negative impact on the flow of food through foreign trade routes. Food producers reliant on selling their crops through far-off export markets were extremely vulnerable as borders closed and demand for some foods decreased, especially those producers specializing in perishable food and agricultural products, like fresh fruits and vegetables or specialty crops, like cocoa (Clapp and Moseley, 2020). Food system workers’ high rates of illness also caused disruptions to the food supply chain, closing several food processing facilities like those for packing meat. Workers in labor-intensive food production, such as those in production systems that depend on migrant farmworkers (discussed in more detail below), who face travel restrictions and frequently work in cramped conditions on farms and in food production facilities, some of which had to temporarily close to contain outbreaks, have also been particularly affected by COVID-19 (Haley et al., 2020).
The global economic downturn and resulting income losses

A global economic slump brought on by the COVID-19 epidemic has caused a drastic loss of income and livelihood on a global scale (World Bank, 2020a). Food security and nutrition have suffered significantly as a result of the decline in purchasing power among individuals who lost their jobs, particularly for populations who were already at risk. Those who work in the informal economy are particularly impacted. The International Labour Organization (ILO) estimates that the implementation of lockdown measures in several nations caused the loss of more than 400 million full-time employment in the second quarter of 2020. (ILO, 2020a). Most affected are developing nations, as they already experienced recession by late 2019. (UNCTAD, 2020a). 2020 is predicted to see a sharp decline in global growth, with forecasts ranging from 5 to 8 percent for the year (IMF, 2020; OECD, 2020). A 20 percent decline in global remittances, a key source of funding for underdeveloped nations, is anticipated (World Bank, 2020a). By the end of 2020, an additional 71 to 100 million people are predicted to experience extreme poverty as a direct result of the epidemic, according to projections from the World Bank (World Bank, 2020a). The most impacted are poor countries, which by late 2019 had already experienced recession. 2020a (UNCTAD). Forecasts for 2020 range from 5 to 8 percent, and a dramatic decrease in global growth is anticipated (IMF, 2020; OECD, 2020). Global remittances, a crucial source of support for developing countries, are predicted to decrease by 20%. (World Bank, 2020a). The World Bank predicts that by the end of 2020, an additional 71 to 100 million people will be living in severe poverty as a direct result of the epidemic (World Bank, 2020a).

Growing social injustices

Both the pandemic's impact on the world economy and the disease's spread have made socioeconomic injustices in the majority of nations worse (Ashford et al., 2020). These injustices have an impact on rights, access to basic necessities including food, water, and health care, as well as access to employment and other sources of income, all of which have an effect on food security and nutrition. Those who live in poverty and endure societal discrimination are already disproportionately affected by food insecurity; additionally, they are more likely to contract COVID-19 and have less access to health care services (Klassen and Murphy, 2020). Moreover, COVID-19 has made disparities in access to clean water and basic sanitation worse. One in three individuals lack access to clean drinking water and simple handwashing facilities, according to the WHO (WHO, 2020b). Individuals without access to these services are more likely to get the disease, aggravating already-existing disparities. These services are essential for health and safe food preparation (Ekumah et al., 2020). These disparities have an impact on women and their important positions in the food systems, such as those of primary producers of food, managers of farms, traders of food, and wage employees. According to FAO, rural women's agricultural pursuits have been more adversely impacted than those of males (FAO, 2020b). This gender aspect is crucial since women are more likely to be exposed to COVID-19 due to their caregiver responsibilities for the sick, young, and elderly. This has repercussions for food production, processing, and trading (Moseley, 2020).

Social protection programs are disrupted

Governments' abilities to provide social assistance for those most impacted by the crisis have also been hampered by the global economic recession brought on by the pandemic and the measures taken to manage it (FAO and WFP, 2020). In order to free up finances to deal with the pandemic's effects, the G20 governments proposed in April to freeze the debt service payments for 73 of the poorest nations. This proposal received support from the G7 governments. Although difficult to fully implement, this project has had an impact on the ability of the poorest nations to offer social protection for their inhabitants during this crisis. The UN Commission for Africa (ECA) estimates that Africa needs $100 billion to finance its response to provide health and safety nets (Sallent, 2020). The majority of nations may have to borrow money to pay for their response, but regrettably, some nations' borrowing capacities are hampered by their existing high debt to GDP ratios (Sallent, 2020).

Environments Affected by Food

Due to a "formality" bias in public health and food policy, many countries tried to close down informal food markets as the COVID-19 epidemic spread. Governments considered these markets as potential sites for the spread of disease (Battersby, 2020). In developing nations, informal marketplaces play a crucial role as sources of food and income (Young
and Crush 2019). While informal and open-air food markets, which normally offer more fresh fruits and vegetables, were allowed to continue operating in South Africa, they were shut down. This is despite the fact that open-air markets are actually safer in terms of person-to-person transmission (Moseley and Battersby, 2020). Poor people, who rely more on such markets for food since they can buy vegetables and other goods in smaller quantities, were most harmed by this decision. Various reactions to these modifications have been noticed. According to a recent study, the pandemic is expected to cause impoverished households to switch their spending from fresh produce with high micronutrient content to less nutrient-rich staple foods (Laborde, Martin and Vos, 2020).

**Localized increases in food prices**
The cost of shipping has increased as a result of supply chain disruptions, which have also increased food prices (FAO, 2020c). Due to the localized price rises, access to food is becoming more difficult and expensive, especially for those with low incomes. This has a direct impact on food security and nutrition. Moreover, the dynamics of the epidemic have caused localized pricing fluctuations, resulting in localized food price rises in several nations, especially those that rely on food imports (Espitia et al., 2020). For instance, between February and mid-April 2020, rice prices rose by 32, 25 and 10%, respectively, in Thailand, Vietnam, and the US (Katsoras, 2020). For nations that rely on imported supplies, the global recession's effects on currency depreciation also resulted in increased localized food prices (UNCTAD, 2020a). Price trends have changed as the pandemic intensified, with meat prices increasing.

**Six Dimensions of Food Security Implications**
The dynamics mentioned above have intricate effects on food security and nutrition. In addition to the four traditional "pillars" of food availability, access, stability, and utilization, the HLPE Global Narrative report proposes adding agency and sustainability as crucial elements (HLPE, 2020b). Each of these aspects, including the suggested additions of agency and sustainability, is affected by or has been affected by the COVID-19 pandemic, demonstrating the significance of each of these dimensions in assessing the implications of the problem for food security and nutrition.

a. **Availability:** Despite the fact that global grain stocks were high at the beginning of the epidemic and are still strong, this global scenario hides local variability and may change over time. Because grain production in high-income nations is frequently highly mechanized and labor-intensive, illness outbreaks among farm workers are less likely to occur. In the future, disruptions in the supply chains for agricultural inputs may have an impact on how much food is produced.

b. **Access:** Food availability has more likely been impacted by the COVID-19 crisis than any other aspect of food security. Lockdowns have had an extremely detrimental effect on people's ability to acquire food, causing a global economic slump. Short-term coping mechanisms (such as savings, selling of property and animals) are running out as the crisis continues, and developing nations are only partially able to offer broad social safety nets (Gerard et al., 2020).

c. **Utilization:** There have been significant effects of the epidemic on use and nutrition. The human immune system depends on proper diet, which also lowers the danger of infection. Nonetheless, the crisis had a detrimental effect on people's capacity to afford a nutritious diet since their access to food decreased (FAO et al., 2020). The poorest households often spend between 50 and 80 percent of their income on food in low- and middle-income nations, where people typically spend a higher percentage of their income on food than in high-income countries (FAO, 2011).

d. **Stability:** The stability of the world's food supply and access are being impacted by the major interruptions to food supply systems mentioned above (Bene, 2020). In contrast to other products, the prices of which generally declined, staples like wheat and rice saw higher world prices as a result of export limitations (FAO, 2020c). There is still a chance that countries may implement new export limits even though the majority of the COVID-19 food export limitations were temporary (Espitia et al., 2020). The stability of the food system and persistent economic instability are both impacted by the increased pressure on food costs in various local contexts.
Agency: As the situation has developed, the most marginalized members of the food system—including food farmers and system employees—have had little control. As mentioned above, those who produce and labor in the food system have been on the front lines, have higher rates of sickness, and are most impacted by supply chain disruptions. Agency suffers from the loss of livelihoods and employment.

Sustainability: Intricate relationships exist between the epidemic and the sustainability aspect of food security. A increased prevalence of zoonoses, or diseases that spread from animals to humans, is linked to the rise of industrial agriculture, with COVID-19 serving as an excellent example (Everard et al., 2020). The widespread perception is that fragile ecosystems, particularly the destruction of wildlife habitats, are a major factor in the increased likelihood of disease transmission between people and wild animals due to greater human-wild animal interaction.

Empirical Review
Even before the COVID-19 pandemic, the provision of food has always been a problem for humanity (Kansiime et al. 2020). A deficiency in the gap between supply and demand for food, which is directly related to food insecurity, has been proven to be a negative impact of COVID-19 on agriculture in a few studies that are currently accessible (such as Balana et al. 2020, Amare et al. 2020, and Laborde et al. 2020). The majority of current analyses typically foresee a long-term decline in commerce and logistics as well as a reduction in both the supply and demand for agricultural products. The pandemic is a singular shock that significantly affects both the supply and demand for goods (Commodity Markets Outlook 2020).

Balana et al. (2020) studied the effects of COVID-19 pandemic policies on the incomes, employment, and food security condition of smallholder farming households in Nigeria using data gathered from sample households from four states in Nigeria. Their results demonstrate that travel and mobility limitations brought on by COVID-19 disrupted agricultural operations and supply lines.

In their studies of the effects of COVID-19 and similar restrictions on smallholders in India, Ceballos et al. (2020) and Harris et al. (2020) found significant variation in the effects of COVID-19 responses on agricultural activity, income, and food security. Matsungo and Chopera (2020) also looked at how the COVID-19-induced lockdown affected adults’ diets, health, and lifestyles in Zimbabwe. They found that the lockdown was linked to higher food costs, less dietary variety, and altered eating and consumption patterns.

Welsh (2020) adds that in addition to directly altering supply and demand on a global scale, the pandemic is also influencing food systems indirectly by weakening the population's purchasing power and the ability to produce and distribute food. Devereux et al. (2020), Bakalis et al. (2020), and Farrell et al. (2020) further highlight the dual nature of COVID-19’s effects on food security, both directly (disrupted food systems) and indirectly (undermined economic access to food). Home confinement, according to Sidor and Rzymski (2020), is linked to harmful eating habits, such as more frequently consuming unhealthy foods, binge eating, snacking in between meals, and eating more frequently throughout the day.

Methodology
Research Design
The study adopted descriptive survey research design. This was because according to Osuala (2001), a descriptive survey design focuses on people, their opinions, attitudes, motivation and behaviour.

Population of the study
The population of the study is 100 respondents randomly selected among individuals and households at Isieke village in Asaba.

Sample and sampling technique
The stratified sampling technique was adopted for the study. This is due to the fact that the population was divided into two (2) strata which are; individuals and households. The justification for the choice is that, stratified random sampling techniques produce a minimum sampling error compared to other sampling techniques/methods.

Research instrument
Questionnaire was used to collect data for the study, which examined how the COVID-19 pandemic
affected individuals, households, and food security and dietary habits. During the study, contributing factors such as age and gender, class and source of money, geography, educational background, and familiarity with COVID-19 were noted.

**Validity of the instrument**
The face and content validity of the instrument for data collection was done. Sets of the structured questionnaires were given to three experts in the academics to carry out validity. This is to ensure that questions are simple and easily understood by the respondents. Consequently, adjustments and corrections were effected to ensure that they elicit the desired information for the study.

**Reliability of the instrument**
To obtain the reliability of the instrument, the questionnaire was trial tested. For the purpose of obtaining the reliability of the instrument, Cronbach Alpha was used to determine the internal consistency of the instrument after one administration and a reliability estimate of 0.82 was obtained.

**Method of data collection**
Primary data came through the dissemination of a well-structured questionnaire to 100 respondents chosen at random. The main instrument for data collection was a structured questionnaire consisting of four-point likert scale. Copies of constructed questionnaire were distributed to respondents based on face to face method to serve as a source of primary data for this study.

**Method of Data Analysis**
The Statistical Package for Social Sciences was used to examine the degree of dependency/connectivity of the homes and other activities using the Chi-Square test of Independence (SPSS). The Chi-Square test was essentially used to determine whether all of the people and households encountered problems with food security and dietary intake.

**Results**

**Table 1: Frequency distribution of the respondents**

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid percent</th>
<th>Cumulative percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>93</td>
<td>93.0</td>
<td>93.0</td>
<td>93.0</td>
</tr>
<tr>
<td>No</td>
<td>7</td>
<td>7.0</td>
<td>7.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

The cumulative proportion of all variables, calculated with regard to their sample, is shown in Table 1's frequency distribution. The results showed that 93 percent of the sample as a whole took part in the study, which examined all variables using the indicators chosen to create the phenomena.

**Table 2: Food and nutritional intake**

<table>
<thead>
<tr>
<th>Value</th>
<th>Df</th>
<th>Asymp. Sig. (a-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-square</td>
<td>4.421a</td>
<td>3</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>6.775</td>
<td>3</td>
</tr>
<tr>
<td>Linear by linear Association</td>
<td>3.249</td>
<td>1</td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Pearson Chi-square</td>
<td>10.311a</td>
<td>4</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>11.218</td>
<td>4</td>
</tr>
<tr>
<td>Linear by linear Association</td>
<td>.805</td>
<td>1</td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

The results from the two major post-COVID-19 dynamics indicators (Food and Nutrition) taken into account in the study were shown in table 2 above. The results showed that the levels of food security and dietary consumption were, respectively, 0.219 and 0.036. The post COVID-19 dynamics reaction major, however, has little to no impact on the individual and household level as a result. Even though many people asserted that the lockdown action, as stated in table 1, had an adverse effect, our research found the opposite to be true.
Table 3: Food security and nutritional intake

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>Df</th>
<th>Asyp. Sig. (a-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-square</td>
<td>7.310a</td>
<td>4</td>
<td>.120</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>9.721</td>
<td>4</td>
<td>.045</td>
</tr>
<tr>
<td>Linear by linear Association</td>
<td>5.473</td>
<td>1</td>
<td>.019</td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>100</td>
<td></td>
<td></td>
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</tbody>
</table>

According to table 3 above, the 12% dependency level determined demonstrated that the post-Covid-19 dynamics had little effect on people's food security or nutritional consumption.

Discussion

Based on the examination of food and nutrition done above, post-COVID-19 dynamics expressed by various classes of people and households were taken into consideration. The distribution of the questionnaires was done at random, and the response rates were 95% and 93%, respectively. The majority of respondents were men between the ages of 26 and 45, were low income earners who viewed trade as their main source of income, and as a result, had a dependant population of at least five people. Notwithstanding the educational backgrounds of the sampled respondents (30% were in elementary and secondary school and 60% were in post-secondary education), greater sensitization is needed to increase their comprehension of COVID-19 dynamics, particularly in terms of its presence. The results showed that 37% of respondents thought the virus existed, while 53% thought it did not. These responders had a lockdown imposed on them by the authorities in their respective states. The key socioeconomic issues, such as food security and nutrition intake, were not caused by the COVID-19 lockdown response measure, as reported, according to the results of a Chi-Square Test of Independence, but rather by the low income levels required by the economic circumstances. The survey showed that people and households had food and were getting a healthy diet following the COVID-19 lockdown. So, during the Covid-19 era, there were limited food options and no choices for dietary intake; however, once the lockdown measure was lifted, it became simple to have access to food and make a variety of dietary choices. As a result, the lockdown was not entirely effective in halting the spread of COVID-19.

Conclusion

Food and nutrition were not fully affected by lockdown measures during COVID-19; rather, the post-COVID-19 period brought with it the significant difficulties that endangered household and individual. Some of the post-Covid-19 dynamics that have intricately impacted food security and nutrition include supply chain disruption, the global economic downturn, income losses, widening social inequities, disruptions to social protection programs, altered food environments, and localized food price increases. Furthermore, depending on the severity and duration of the pandemic as well as the containment measures taken, there may be future concerns to food security and nutrition, including the possibility of lower food yield and production.

Recommendations

According to the study's findings, the following steps can be taken to ensure food security and nutrition in the post-COVID-19 dynamics:

i. Putting in place more effective targeted social protection programs to provide access to wholesome foods

ii. Be sure to improve protections for farmers and other marginalized workers in the food chain who are disproportionately impacted by the crisis.

iii. Better safeguard nations that depend on imported food.

iv. Encourage more resilient and diverse distribution networks, including localized marketplaces and shorter supply chains.

v. Encourage the development of agroecological and other sustainable food production methods that are more robust.

vi. Improve and coordinate policy responses to the COVID-19 pandemic’s effects on food systems, food security, and nutrition.

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