

The Effects of COVID-19 Pandemic Outbreak on the Household Economy

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ABSTRACT

Introduction: COVID-19 pandemic outbreak increased panic, anxiety, and depression level in both young and adult people and changed food consumption preferences. In the present study, the effects of COVID-19 pandemic outbreak and lockdown on the household economy (income and expenses) were investigated.

Method: This research consisted of four hundred and ninety-three participants/families. All of them accepted voluntarily to take part in this study (364 men and 129 women). An online survey was generated to get the household economy parameters, including income, total expenditure, and other expenses during COVID-19 pandemic outbreak. The survey was conducted during the lockdown period of COVID-19 when all participants were self-isolated at their residences.

Results: There was a significant decrease in family incomes and a significant increase in family expenditures during COVID-19 pandemic outbreak. Although there were substantial increases in nutrition, cleaning, communication, water-electric-gas expenses, there were outstanding decreases in cultural and transportation expenses.

Conclusion: The results of the present study display that COVID-19 pandemic outbreak has a powerful impact on incomes and expenses of families from various countries. The long-period lockdown can cause several expected and unexpected adverse results such as health problems and worsening economic conditions of people. Local highway and air transportation might be permitted, and higher education institutions may be recommenced by providing basic precautions such as face mask and social distance rules.

Key words: Coronavirus, COVID-19, Household economy, Incomes, Expenses

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INTRODUCTION

Humanity is facing a global health crisis with COVID-19 pandemic, unlike any in the 75-years history of the United Nations. It kills people, makes human suffering at the extreme levels, and upending people's lives. But this unexpected case is much more than a simple health crisis. It is a human crisis. The coronavirus disease is attacking societies at their core [1].

COVID-19 is a disease with an extremely high mortality rate. It resulted in a widest pandemic

geography and about 210 countries and regions around the world were occupied by its unbearable influences. Moreover, a second conveyance is being experienced. Meanwhile the overall mortality rate of COVID-19 is averagely 9% in the world according to the international reports about corona virus disease [2]. As the World Health Organization (WHO) announces it is a public health emergency of international discomposure on January 30, 2020 and it called for collaboration and support of all countries to prevent the rapid spread of COVID-19, in response to this serious situation all over the world [3]. Consequently, on March 11, 2020, WHO has declared that COVID-19 disease is a pandemic. Eurozone: Italy, Germany, Spain, France, England with Turkey, and Russia, was

the most severely affected, consequently the epicenter of this pandemic that rapidly moved from China to Europe. Later, it has moved to the USA, through New York and severely affected the country.

However, the fight against COVID-19 pandemic is still getting exceptionally low levels of success across the world. To access success, people's positive approaches to the control measurements are incredibly important since the pandemic has severe vital influences not only physically but also psychotically. The SARS outbreak in 2003 taught us that knowledge and attitudes against viral infectious outbreaks are closely related with the panic emotion level of people, because the panic fear can foreclose the governmental precautions.

The epidemic outbreak and lockdown increase the psychological stress on people [4-7]. The constantly spread of the disease, the official hard isolation applications and closings of educational institutions are expected to affect the mental health of all people. There are many studies on the possible harmful effects of the infectious epidemics on the public, patients, medical staff, children, and older adults [8,9]. In a previous study, it has been reported that having relatives infected with COVID-19, its economic and social effects with impacts on daily life, as well as delays in academic activities, enhances anxiety levels among college students [10]. Also, in a previous COVID-19 study, Nigerian university students had high anxiety levels than normal people [11]. In another recent study, it has been reported that there is a low anxiety and depression levels in academic staff against COVID-19 [12]. They suggested that the knowledge levels of people should be increased to decrease their anxiety and depression by means of online distance education systems.

Furthermore, some changes in food consumption preferences and their causes were reported in a recent study. Before the outbreak, the first and second preferences for food consumption were meat and bakery foods, but after the outbreak, the first and second preferences were fruits and vegetables. Before the outbreak, the first

and second causes for preference were cost and health, but after the outbreak, the first and second causes for preferences were quality and medical concerns [13]. There are some studies related to changes in shopping or consumption preferences during previous pandemic outbreaks [14-16]. Unfortunately, however, there is a lack of academic studies about the effects of the pandemic outbreak on the household economy (incomes and expenses). In the present study, the effects of COVID-19 pandemic outbreak on the household economy was investigated.

METHODS

Participants

Four hundred and ninety-three participants/families were included in this study. All of them accepted to participate in this study voluntarily (364 men and 129 women) (Table 1). Their ages range is between 20 to 65. An online survey (questionnaire) was generated and shared only with participants, the people experiencing pandemic lockdown. The survey was conducted during the lockdown period of COVID-19 when all participants were self-isolated at their homes. The aim was to ensure the results obtained from the probing were valid and reliable. In the survey, the questionnaires for the changes in the household economy during COVID-19 disease lockdown were posted online for volunteers to fill out. To keep the confidentiality and privacy of the survey, a secured internet link for the survey was produced and shared only with participants who were willing to fill out. All participants have completed the survey voluntarily.

Inclusion criteria

Willingness to participate.

Only one person from each family could participate.

Exclusion criteria

The study excluded participants that were not willing to be involved.

Subjects with psychiatric or neurological disease were excluded.

Table 1: Socio-demographic features of the participants (Number and percentage of participants).

	Gender		Men: 364 (73.8%)	Women: 129 (26.2%)
Country	Nigeria: 225 (45.6%)	Turkey: 159 (32.3%)	USA: 26 (5.3%)	Europa: 83 (16.8%)
Income level		Low: 193 (39.1%)	Middle: 273 (55.4%)	High: 27 (5.5%)

Procedure

The experimental protocol was held by following international ethical standards. The study was performed per under the Helsinki Declaration (1975, revised in 1996-2013) [17]. It was a descriptive cross-sectional study. The objectives and aims of the study were explicitly explained to the participants before the commencement of the study. All participants voluntarily submitted their written consent to take part in the study. The study kept anonymity and it was done between April 25 and May 05, 2020.

Statistical analyses

Measured values are given as a mean +/- standard deviation (SD). Statistical analysis was performed by SPSS, Windows version 18. The Chi-Square Test was applied to find out and compare the rates (percentages) of chances in the household economy during COVID-19 pandemic outbreak. A p-value of less than 0.05 was considered statistically significant.

RESULTS

Participants reported a statistically significant decrease in their family incomes by COVID-19 pandemic outbreak (Chi-square=435.87, p=0.00). Of 493 participants, 215 (43.6%) have reported a decrease, and only 59 (12%) have reported an increase in their family incomes (Table 2 and Figure 1).

Participants reported a statistically significant increase in their family expenditures by COVID-19 pandemic outbreak (Chi-square=162.913, p=0.00). Two hundred and ninety-four participants (59.6%) have reported an increase, and only 100 (20.3%) have reported a decrease in their family expenditures (Table 2 and Figure 1).

Participants reported a statistically significant increase in their nutrition expenses by COVID-19

pandemic outbreak (Chi-square=269.915, p=0.00). Three hundred forty-four participants (69.7%) have reported an increase, and only 45 (9.1%) have reported a decrease in their food-drink expenses (Table 2 and Figure 1).

Participants reported a statistically significant increase in their cleaning, hygiene expenses during COVID-19 pandemic outbreak (Chi-square=348.15, p=0.00). Three hundred and seventy-nine participants (76.9%) have reported an increase, and only 14 (2.8%) have reported a decrease in their cleaning, hygiene expenses (Table 2 and Figure 1).

Participants reported a statistically significant increase in their communication expenses during COVID-19 pandemic outbreak (Chi-square=393.586, p=0.00). Two hundred and ninety participants (58.9%) have reported an increase, and only 18 (3.6%) have reported a decrease in their communication expenses (Table 2 and Figure 1).

Participants reported a statistically significant increase in their water-electric-gas expenses during COVID-19 pandemic outbreak (Chi-square=248.943, p=0.00). Three hundred and twenty-six participants (65.1%) have reported an increase, and only 19 (3.8%) have reported a decrease in their water-electric-gas expenses (Table 2 and Figure 1).

Participants reported a statistically significant decrease in their cultural expenses by COVID-19 pandemic outbreak (Chi-square=191.878, p=0.00). Of 493 participants, 214 (43.4%) have reported a decrease, and 110 (22.3%) have reported an increase in their cultural expenses (Table 2 and Figure 1).

Participants reported a statistically significant decrease in their transportation expenses at the time of COVID-19 pandemic outbreak (Chi-square=376.377, p=0.00). Of 493 participants,

Table 2: The numbers and percentages of changes in different parameters related to the family economy during COVID 19 pandemic outbreak.

	Decrease of 50%-100%	Decrease of 25%-50%	Decrease of 0%-25%	No Change	Increase of 0%-25%	Increase of 25%-50%	Increase of 50%-100%	Chi-Square	p
Income	49 (9.9%)	76 (15.4)	90 (18.3%)	219 (44.4%)	21 (4.3%)	22 (4.5%)	16 (3.2%)	435.87	0.00
Expenditure	6 (1.2%)	23 (4.7%)	71 (14.4%)	99 (20.1%)	112 (22.7%)	120 (24.3%)	62 (12.6)	162.913	0.00
Food-Drink	6 (1.2%)	10 (2%)	29 (5.9%)	104 (21.1%)	120 (24.3%)	147 (29.8%)	77 (15.6%)	269.915	0.00
Cleaning	4 (0.8%)	6 (1.2%)	4 (0.8%)	100 (20.3)	140 (28.4%)	142 (28.8%)	97 (19.7)	348.15	0.00
Communication	1 (0.2%)	5 (1%)	12 (2.4%)	185 (37.5%)	99 (20.1%)	94 (19.1%)	97 (19.7)	393.586	0.00
Water-Electric-Gas	0	6 (1.2%)	13 (2.6%)	148 (30.3%)	141 (28.6%)	123 (24.9%)	62 (12.6%)	248.943	0.00
Cultural	83 (16.8)	70 (14.2%)	61 (12.4%)	169 (34.3%)	44 (8.9%)	38 (7.7%)	28 (5.7%)	191.878	0.00
Transportation	52 (10.5)	62 (12.6%)	86 (17.4%)	211 (42.8%)	30 (6.1%)	42 (8.5%)	10 (2%)	376.377	0.00

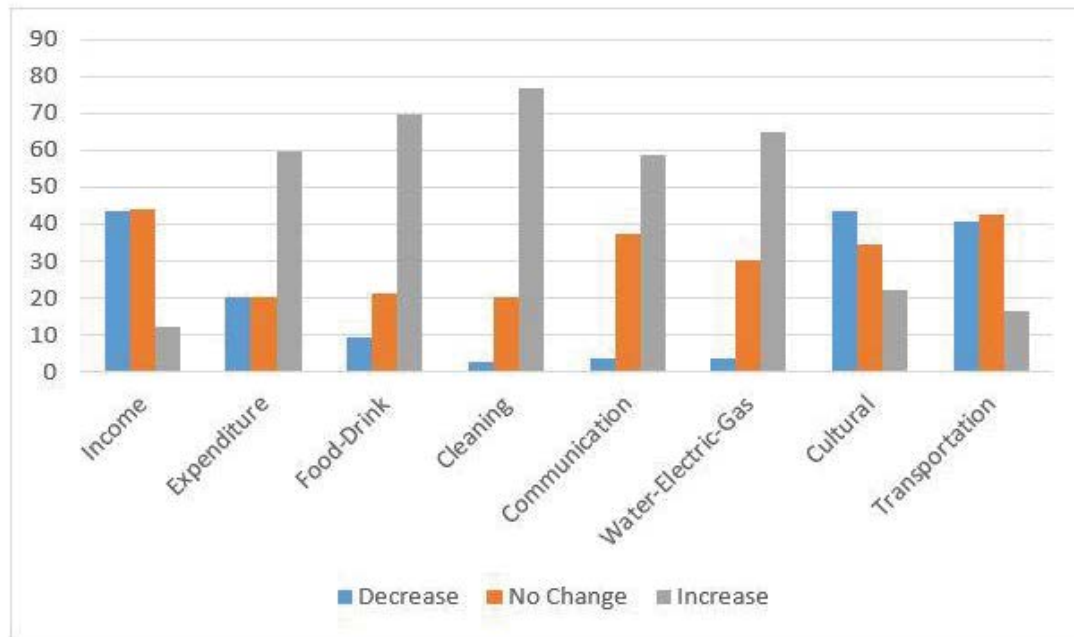


Figure 1: Changes in the household economy (income and expenses) during COVID-19 pandemic outbreak

200 (40.5%) have reported a decrease, and 82 (16.6%) have reported an increase in their transportation expenses (Table 2 and Figure 1).

DISCUSSION

As part of the response to COVID-19, virtually all OECD countries were severely affected by the virus and they have introduced strict restrictions to social and economic life, including social distancing and even full lockdowns. The major question is how to manage these restrictions, and how to go back to a new normal of living with this pandemic reality; a social and economic life that coexist with the virus [18].

The lockdown policy was experienced in many countries, including Nigeria, for more than two months. Some scientists have declared that the long-period lockdown was harmful to health and economic conditions of the people. A Nobel laureate scientist, Prof. Michael Levitt from Stanford University, claimed that the coronavirus lockdown could have caused more deaths than it saved [19]. He correctly predicted the initial scale of the pandemic, suggested that the decision to keep people indoors was motivated by 'panic' rather than the best science. His claims echo those in a JP Morgan report that said lockdowns failed to alter the course of the pandemic but have instead 'destroyed millions of livelihoods'. Marko Kolanovic, a trained physicist, and a strategist for JP Morgan, said governments had

been spooked by 'flawed scientific papers' into imposing lockdowns which were 'inefficient or late' and had little effect. He said falling infection rates since lockdowns were lifted suggest that the virus 'likely has its own dynamics' which are 'unrelated to often inconsistent lockdown measures' [19].

The history of mankind had many viral pandemics and millions of people have died in different pandemics. For example, more than 23 million people have died in Europe (1/3 of the European population) due to Black Death between 1348-1351 [20]. It has been known that virus depended epidemics such as Lassa Fever (1969), Ebola (1976), HIV (1981), SARS (2003), MERS (2012) have threatened human life in last five decades. However, the human being has founded out remedies for them. The scientists are hardworking to discover the vaccine and drug. Many people are in either voluntary or compulsory isolation. Governments stopped international and domestic flights and restricted all human outdoor activities with lockdown implementation. All this situation may affect the national and international economy and shopping and consumption preferences. In our previous study, it has been reported that before the outbreak humans' first and second preferences for food consumption were meat and bakery foods but after the outbreak the first and second preferences were fruits and vegetables. Before the outbreak, the first and second causes

for preference were cost and health but after the outbreak the first and second causes for preferences were quality of the product and health factor [13].

In MERS pandemic, sales in both online and offline grocery markets did not change considerably due to the MERS intervention. It seems that, by their nature, groceries are a necessity rather than an option for life; hence, an unexpected event like the MERS epidemic cannot dramatically reduce grocery consumption [14]. However, the time-series graphs of online and offline sales tell a different story. The offline sales of groceries experienced a greater decline as compared to the before the outbreak, while the online transactions for groceries rose after the outbreak. They predicted that some people avoided crowded places like big shopping malls or markets for buying groceries and instead moved to online markets.

When infectious diseases such as MERS, Severe Acute Respiratory Syndrome (SARS), and H1N1 (a subtype of influenza A virus) spread, people worry about possible infections that can affect their outdoor activities [21,22], and thus consumer behavior [15,16].

In the present study, there was a significant decrease in family incomes and a significant increase in family expenditures during COVID-19 pandemic outbreak. These changes may be due to the changes in food consumption preferences and their causes [13] secondary to the fear of death of COVID-19 [10-12,23]. Because this pandemic outbreak increased panic, anxiety and depression level in both young and adult people [10-12, 23]. During the case of SARS outbreak, many studies investigated the psychological impact on the non-infected community, revealing significant psychiatric morbidities [24].

Also, there were significant increases in nutrition, hygiene, communication, and water-electric-gas expenses and significant decreases in cultural and transportation expenses during COVID-19 pandemic outbreak.

It can be stated that people in lockdown isolation spend their economic accumulations and these accumulations will finish after a short time. Therefore, the long-period lockdown applications may destroy the household economy around the world. Thus, a senior scientist and professor of

Nigeria, Prof. Boaz Adegboro, declared that it is long overdue to resume interstate land/air traffic and to open Universities in Nigeria [25].

LIMITATIONS

The number of samples, 493 families within 4 regions of the world, is a strong evidence to prove the results of the research. However, there is an imbalance among the number of participants by countries. The scope of this study didn't include the influences of education, job type, number of family members, and geographic areas. This may be considered as another limitation.

CONCLUSION

The results of the present study illustrate that COVID-19 pandemic outbreak has a powerful impact on the household economy almost all over the world. The long-period lockdown can result in a lot of expected and unpredicted severe nagotary consequences over the health and economic wellbeing of the people. The long-period lockdown can cause several expected and unexpected adverse results such as health problems and worsening economic conditions of people. Local highway and air transportation might be permitted, and higher education institutions may be recommenced by providing basic precautions such as face mask and social distance rules.

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