MICROECONOMIC IMPACT OF COVID-19 PANDEMIC: NIGERIA EXPERIENCE

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ABSTRACT

The economic and psychological needs of household unit witness changes due to the COVID-19 pandemic. Parents and children's need for quality access to health care, nutrition and wellbeing was hampered due to lock down policies and restrictions in movement. The world order changed completely leaving healthy people fearful of contacting COVID-19 while sick ones hoped for care and healing. Globally, health and wealth was challenged and economic activities altered with much online and swift migration to a digital economy where production is completed with less human contact. This study focuses on the microeconomic burden of COVID-19 pandemic in Nigeria. The financial and economic cost of COVID-19 attack on households was huge and tends towards mortality. Data on cases collected through secondary sources shows the pandemic is spreading. Information was collected on each household's expenditure to prevent COVID-19 attack, the cost of protection and time lost due to the illness for those who tested positive. The findings showed that despite government subsidy on vaccine, the direct cost of treatment, direct protection cost and indirect cost is huge and unbearable for individual household. The total cost of illness per episode revealed that each individual needs to have a budget since an average of 14 days is lost per episode due to quarantine. Thus, COVID-19 has huge economic burden. Though, the government health policy and program have been put in place to curtail the spread and impact on the economy, it should also intensify its effort through the implementation of a domestically inclined, efficient and effective prevention and control program to further reduce the burden on the households in Nigeria.

Keywords: COVID-19, Economic Burden, Microeconomic Impact, Nigeria

Introduction

Good health is of great importance to labour, as labour is a major factor of production. In the presence of proper health, productivity and output increases, but ill health causes man-hour loss on output. Covid-19 is one of the most serious health problems facing the world today. It is not only endemic in Asia and tropical Africa, it has spread to become a pandemic distorting economic activity globally.

The economic and psychological needs of household unit witness changes due to the COVID-19 pandemic. Parents and children's need for quality access to health care, nutrition and wellbeing was hampered due to lock down policies and restrictions in movement. The world order changed completely leaving healthy people fearful of contacting COVID-19 while sick ones hoped for care and healing. Globally, health and wealth was challenged and economic activities altered with much online and swift migration to a digital economy where production is completed with less human contact.

The December 2019 report of certain strange cluster of pneumonia cases from an unknown virus surfaced in Wuhan, China. Based on initial laboratory findings, the disease named Corona virus disease 2019 (abbreviated as COVID-19), was described as an infectious disease that is caused by severe acute respiratory syndrome coronavirus (Al-Samarrai, Cerdan-Infantes & Lehe, 2019). The outbreak is in recent times one of the most disrupting human tragedy that affected billions of people across the globe. The resonance effects are now seen on industries, corporations and small and medium enterprises (SMEs) and general supply and demand chains. Consequently, household units are more impacted with the disruption caused by the virus. A lot of things changed; lifestyle, worklife, global economic order, mental stress due to anxiety or loss of a loved one amongst other variables of impact. The outcome has devastated all facet of life with attendant effect of sluggish growth due to the downward slope of economic activity momentum subsequently without specific ending date (Segal & Gerstel, 2020).

Covid-19 posed a serious demographic consequence for the globe and specially the continent of Africa and specifically for Nigeria. The total incidence and deaths occurring there are majorly the adults, particularly amongst pregnant women and children. Good health care does not only contribute to better quality of life, it is absolutely essential for a healthy and virile labour force required at the national level to meet a nation's potential human capital requirements hence, the creation and maintenance of a nation's wealth through the promotion of an effective labour force cannot be achieved without the role of the health sector.

In view of the above; it is expected and desirable that modern healthcare be readily accessible to all and sundry irrespective of geographical location as this is a major objective of the Sustainable Development Goals SDGs. The dawn of the new millennium has brought with it remarkable advances that promote health and longevity, at least in the developed world where effective modern health care is generally accessible to the majority as focused on by millennium development goals (MDGs) . However, Covid-19 remains a major threat to good health around the world, Nigeria inclusive.

There are a number of existing studies quantifying the economic burden of Covid-19. Since these studies were concluded, a number of prevention and control programmes have been implemented by the government. If these programmes are effective, the effect economic burden would have been significantly reduced from their previous levels. The prime concern of this research work is to outline the microeconomic impact of Covid-19 in Nigeria by focusing on the cost on the economy (i.e. Prevention cost, treatment cost, loss in output cost etc.)

The objectives of the study are to determine the microeconomic impact of COVID-19 pandemic in Nigeria, and to determine the effectiveness of various government control programmes in reducing the impact on Nigerians.

Following the introductory section, section two presents a review of literature on the extent of covid19 in Nigeria; the next is devoted to methods of data gathering and data analysis techniques used in the study. Empirical results and policy implications were presented in following the earlier section and the final section consist of the conclusion and recommendations.

Literature Review

From a microeconomic perspective, the significant effect of Covid-19 pandemic may be morbidity or mortality. Therefore, the effects of Covid-19 morbidity or mortality on the economy can be justified in the following ways. In a morbid state, the victim may have to seek treatment, which is in no way free thereby incurring health care cost. Also, normal economic activities of the victim may be discontinued either by reducing his total work time or cut down in work hours, these also reduce productivity and efficiency at work. Covid-19 victims suffer physical and psychological pains in the morbid state. Based on this phenomenon, people under-take preventive expenditures and modify their lifestyles to escape from Covid-19. Premature mortality resulting from Covid-19 illness leads to total loss of human capital investment in the victim as well as the associated potential future outputs that are foregone. Furthermore, relations of such victims are sometimes traumatized and experience emotional break.

Covid-19 transmission can be traced to Wuhan, China and since the outbreak the virus has mostly spread through person-to-person contact. Though endemically different but seems to have resemblance to Ebola stains found in Bat, the virus is easily transmitted through close contact with already infected person. Coughs droplets, sneezing among other contact with infected person can spread the virus. The World Health Organization declared Covid-19 a pandemic on the 11th of March 2020 and warns that touching of mouth, eyes and nose should be avoided. Hands must be washed and sanitized frequently.

The expected impact of Covid-19 on Africa, Nigeria inclusive was over estimated as mortality was still within occurrence curve. This does not rule

out the fact that it impacted on the lifestyles of each household, business and micro units of the economy. Knowledge based misconceptions and what was tagged conspiracy theory played a little distraction for Nigerians. The media despite efforts to promote the course and show evidences why the virus should be combatted, so many gave a parallel report claiming it is a lab-grown biological weapon to destroy the world (Olapegba et al, 2020). In a similar research work on Fighting a Global War Using a Local Strategy': Contextualism in COVID-19 response in Africa by Chinwe Lucia Ochu C.L., Akande O.W., Oyebanji O., Aderinola O., Ogunbode O., Atteh R., Okwor T., Oguanuo E., Ojumu T., Ofoegbunam C., Ebhodaghe B., Joseph G., Ibekwe P. and Ihekweazu C. (2021) found that despite the fragile health system, high poverty rate and geometrically increasing population density, most African countries were able to manage the Covid-19 pandemic, may be partly to their experiences of handling infectious diseases outbreak in the past like Cholera, Ebola and Lassa Fever. They recommended that huge investment should be made in the health sector to rampage future disease outbreak and manage daily health challenges. It is however necessary to intensify evidence-based campaign liberate the minds of Nigerians in particular about the misconceptions and promote precautionary measures.

Disease burdens have different measures ranging from medical evaluation to economic quantification. Some of these approaches include the production function approach, the cost of illness approach or the willingness to pay approach among other measures. In a study Asante and Okeyere (2003) they explained the following approaches thus. The production function approach (PF) measures output in relation to labour contribution (in terms of effective man-hours) while the Cost of illness approach (COI) measures in accounting sense the direct cost, indirect cost and intangible cost. These require two components which mellow down on the micro to data involving the cost of illness to individuals/household and on the macro data involving cost pertaining to disease control and institutional cost and the third approach, the willingness to pay approach (WTP) uses the contingent valuation method through a household survey. From the list of methods of quantifying disease burden, it is clear that different approaches are used to measure the burden. It is therefore in the interest of the researcher to choose from the available method which one will suit his objective having in mind that all the method has their attached limitations.

Research Methodology

The cost of illness approach is the method adopted by this study. Since it lacks the tool for quantifying the intangible costs, this implies the study focuses on the measure of cost incurred by the households. In this chapter, we examine in details the method of this study.

The method used in this study was implemented by making random selection of some households as the sample unit. The responses of the respondents were collected via a structured pre-tested questionnaire. This study selected each household and screened it to determine their perception, financial and economic cost related to COVID-19. This includes information on each household's expenditure to prevent COVID-19 attack, the cost of protection and time lost due to the illness.

On the other hand, publication of the Nigeria Centre for Disease Control (NCDC) on the update of covid-19 outbreak was used to check the trend on how the pandemic is spreading in Nigeria.

The responses of the respondents were analyzed using descriptive statistics of frequency tables and means. The total cost of malaria illness was calculated by adding the private direct cost (PDC) with private indirect cost (PIC). This is stated as:-

COI = PDC + PIC …….(1)

Calculation includes the average total cost spent during the lockdown policy compared to average monthly spending. The total costs for the studied population were estimated as well as for Nigeria. This was obtained by multiplying the cost per capita by the population size and the morbidity rate. The output lost is measured using worker-population ratio by estimating the proportion of lost time that has consequences for (reduced) output. These

calculations were done using a combination of SPSS and Microsoft Excel Spreadsheets.

This study requires data on the socio-economic characteristics of the household, the demographic characteristic, the choice of health care provider, choice of treatment, cost of prevention/prevention against malaria, self-assessment to deduce their economic worth, household income among others. This data requirement also included the financial and economic costs of surviving the lockdown. A copy of the questionnaire used to quantify the impact can be requested. A total of 1900 respondent was targeted for the questionnaires.

Empirical Results, Analysis and Discussion

The summary of the findings based on the administered questionnaire shows results comprising the demographic characteristics of the respondent from each sampled households, and the estimated associated costs of Covid-19 on each household's resources, which includes output lost, remote work, working from home, cost of internet subscription, time lost, lost school days by student victims and absenteeism from work by workers if infected and the caretaker, number of days spent in quarantine for entry points from abroad.

The table below presents the distribution of respondents that had similar symptoms of Covid-19 cases among the studied households. It shows that about 81.4 percent of the households recorded at least one episode within the reference period of Covid-19 symptoms while about 13.6 percent recorded 2 cases within the period. The minimum number of cases is one while the maximum is six per household per month giving us an overall average of a case of malaria attack per household per month.

Table 1: Some Descriptive Statistics of Number of Covid-19 Cases

	Minimum	Maximum	Sum	mean
Number of cases (Covid-19 Prevalence)	**1.00**	**6.00**	**134.7186**	**.87590**
Covid-19 Morbidity Rate	**.09**	**2.00**		**.4801**

Source: Computed in this Study

Table 2: Frequency Distribution of Number of Covid-19 Symptom Cases

Number of Occurrence	Percentage	Cumulative percentage
1	**81.4**	**81.4**
2	**13.6**	**94.9**
3	**.8**	**95.8**
4	**.8**	**96.6**
5	**2.5**	**99.2**
6	**.8**	**100.0**
Total	**100.0**	
Others		

SOURCE: Computed in this study.

Demographic Variables	Proportion of the Total Population (%)
Household highest level of education	
• Primary	1.7
• Secondary	17.4
• Tertiary	62.0
• Others	19.0
Household (Dominant) Occupation	
Primary Occupation	
• Clerical	16.0
• Non-clerical	13.4
• Students/apprentices/ pupil	19.3
• Artisan	9.2
• Teaching	30.3
• Unemployed	5.0
• Pre-school	5.9
• Others	0.8
Respondent's Marital Status	
Married	34.7
Never married	53.7
Separated	1.7
Divorced	2.5
Under age	7.4
Respondent's Religion	
Christianity	93.4
Islam	5.8
Others	0.8

To protect and prevent households from covid-19, this study found out the percentage of what household used. Face mask (40.5%), hand sanitizer (26.3%), sprays/formication (18.4%) and incense/ coils (3.5%). On average it shows that majority of the household opt for self-medication with (51.8%), clinic/hospital (32.5%) and a visit to the faith-based healers/spiritualist (7.9%). From the administered questionnaire; some respondent clearly stated; 'by faith they are healed and there is no need for medication', though some use prayer, anointing oil, candle and water, but all these are to some extent not scientifically quantifiable, since there is no explanation for the process. The visit to the spiritualist is backed up by the high percentage of Christians in the studied area with (93.4%), Islam (5.8%), fetish (0.8%). No household is left out, which reflects that the individual households are very religious. Visiting herbalist (1.8%) is not as rampant as there is a common conception that it is a local way and due to the enlightment and education level in the area which on average is at least a secondary school (2.4%), the household do not go for herbs except in extreme cases when orthodox medicine may prove not effective as expected or cases where the respondent are extremely poor and cut off from modern basic health lifestyle.

It shows that the reasons for choices are informed by the cheapest (46.2%), effectiveness (26.4%), availability (13.2%), convenience (8.5%) and absence of side effect (3.8%). Though most choose self-medication (51.8%) as the first option during a

covid-19 related symptoms especially when the individual involved find it difficult to breathe with extreme dry cough. On the other hand the quarantine procedure was not well effective as some leverage on it to satisfy their hunger and other high net-worth individuals did not use the quarantine locations provided. The choice above reflects the self-assessment of the households. On average the economic worth of the household lies on (53.5%), while 34.2% are still struggling, 7.9% are above average and 4.4% are poor. These information are presented in Tables below.

Face mask (40.4%), hand sanitizer (26.3%), sprays/formication (18.4%), incense/ coils (3.5%) and Stay indoor (1.8%).

TABLE 4: METHOD OF PREVENTION

Prevention methods	Percentage	Cumulative percentage
Nothing	5.3	5.3
Use Hand Sanitizer	26.3	31.6
Use Face Mask	40.4	71.9
Use Spray/formication	18.4	90.4
Use Incense/coil	3.5	93.9
Stay Indoor	1.8	95.6
Prayed	3.5	99.1
Others	0.9	100.0

SOURCE: Computed in this study.

TABLE 5: METHOD OF PROTECTION.

Protection methods	Percentage	Cumulative percentage
Nothing	3.7	3.7
Use Hand Sanitizer	32.1	35.8
Use Face Mask	34.9	70.6
Use Spray/formication	16.5	87.2
Use Incense/coil	7.3	94.5
Stay Indoor	2.8	97.2
Prayed	0.9	98.2
Others	1.8	100.0

SOURCE: Computed in this study.

TABLE 6: CHOICE OF HEALTH CARE PROVIDER.

Choices	Percentage	Cumulative percentage
Nothing	6.1	6.1
Self medicate	51.8	57.9
Visit Spiritualist	7.9	65.8
Visit herbalist	1.8	67.5
Visit clinic/hospital	32.5	100.0

SOURCE: Computed in this study.

TABLE 7: REASON FOR CHOICE OF PROTECTION.

Choices	Percentage	Cumulative percentage
Availability	13.2	13.2
Cheaper	46.2	59.4
Very effective	26.4	85.8
Convenient	8.5	94.3
No side effect	3.8	98.1
Others	1.9	100.0

SOURCE: Computed in this study.

TABLE 8: SELF ASSESSMENT (Economic Worth).

Status	Percentage	Cumulative percentage
Above average	7.9	7.9
Average	53.5	61.4
Struggling	34.2	95.6
Poor	4.4	100.0

SOURCE: Computed in this study.

Other cost of incurred during the covid-19 lockdown period on household are the total direct cost spent living an altered lifestyle. Direct cost of treatment which is covered by government through evacuation of sick person to be quarantine and feed for the period, vaccination by choice of treatment and the extra cost of access to treatment, telephone calls, internet subscription. An estimated mean value of 2 dollars per day is not feasible for this group of household. Self-medication, visiting a herbalist/spiritualist and visit to Clinic/hospital when admission is involved or without admission this comes to about ₦31,930.00. From the above, it is more evident that most people use self-medication based on its cost and not for any other reason. Since the income level in the representative area is barely low and most are still struggling (34.2%). There presumed average economic worthiness (53.5%) can be traced to the to external factors like hike in cost of living and the level of economic activity in the area due to restriction. Given, a broader view, approximately (72%) will be considered poor (below average) due to covid-19 pandemic.

The table also shows the average time lost and distance covered in seeking treatment from major health care providers. An average of 4hr, 7hr and 2hrs are lost respectively when treatment is being provided by self-medication, herbalist/spiritualist and clinic/hospital respectively. Some don't get evacuated immediate when you call the health helpline, even when they present Covid-19 related symptoms. This is slightly due to the limited number trained frontline caregiver and the available space for quarantine. About 20 days are lost by respondents who choose treatment by clinic and hospital, 8days by herbalist and 6days by self-medication.

CONCLUSION AND POLICY RECOMMENDATIONS

The evidence in this study suggests that the burden of covid-19 pandemic in Nigeria may be worsening if proper attention is not paid to it. It was estimated that more than 50% of the respondent incurred heavy cost due to malaria illness. The total cost of illness per episode revealed that each individual needs to have a budget since an average of 14 days is lost per episode due to quarantine. Thus, COVID-19 has huge economic burden. Though, the government health policy and program have been put in place to curtail the spread and impact on the economy, it should also intensify its effort through the implementation of a domestically inclined, efficient and effective prevention and control program to further reduce the burden on the households in Nigeria. Without missing words; if

the above recommendation is adhered to, it will not only contribute positively to reducing the negative impact of Covid-19 on households, but we lead the economic to apt development, since all productive hands are occupied either remotely or openly. This in effect will improve the quality of health, life and economic performance.

REFERENCES

Asante, F.A; K. Asenso-Okyere (2003). Economic burden of malaria in Ghana (WHO).African region Technical report.

Adegboye, O. A., Adekunle, A. I., & Gayawan, E. (2020). Early Transmission Dynamics of Novel Coronavirus (COVID-19) in Nigeria. International Journal of Environmental Research and Public Health, 17(9), 3054.

Chinwe Lucia Ochu C.L., Akande O.W., Oyebanji O., Aderinola O., Ogunbode O., Atteh R., Okwor T., Oguanuo E., Ojumu T., Ofoegbunam C., Ebhodaghe B., Joseph G., Ibekwe P. & Ihekweazu C. (2021) Fighting a Global War Using a Local Strategy': Contextualism in COVID-19 response in Africa. BMJ Innov :1–9. doi:10.1136/bmjinnov-2020-000637

Olapegba, P. O., Ayandele, O., Kolawole, S. O., Oguntayo, R., Gandi, J. C., Dangiwa, A. L., ... & Iorfa, S. K. (2020). A Preliminary Assessment of Novel Coronavirus (COVID-19) Knowledge and Perceptions in Nigeria.

Ozili, P.K. (2020). COVID-19 in Africa: socio-economic impact, policy response and opportunities. International Journal of Sociology and Social Policy.

Soininen, J.,Puumalainen, K., Sjögrén, H., & Syrjä, P. (2012). The impact of global economic crisis on SMEs. Management Researc Review.

NCDC, (2021). Covid-19 update.

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