

Interrogating the Effects of Covid-19 Pandemic on Livelihoods, Demographics and Health of Residents of South-East Nigeria

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ABSTRACT

This study focused on the effects of covid-19 pandemic on livelihoods, demographics and health of residents of South-East Nigeria. The study specifically investigated: the effects of covid-19 pandemic on livelihoods; demographic conditions; and health conditions of residents in South-East Nigeria; and how the livelihoods of such residents can be improved. It was hypothesized that “there is a significant relationship between Covid-19 lockdown and increase in fertility among couples; and that there is a significant relationship between Covid-19 pandemic and access to healthcare facilities. A cross-sectional survey design was adopted. Data were collected through questionnaire and FGD. Multi-stage sampling was used to select 865 respondents for quantitative study while 12 FGDs were conducted for the qualitative data. The quantitative data were processed using SPSS Version 20.0 and analyzed using descriptive and inferential statistics. The qualitative data were analyzed with content analysis. The hypotheses were tested using ANOVA to determine the variation between COVID-19 lockdown and increase in fertility among couples; and outbreak of COVID-19 and lack of access to healthcare facilities. It was found that the pandemic affected the livelihoods of half of the southeastern Nigeria’s residents, and a majority of them could easily pay their children’s fees before covid-19 than after; fed better before COVID-19 than after; had a better income before COVID-19 than after; were bereaved because of the poverty orchestrated by covid-19; had their movement curtailed; neglected the use of contraceptive; and was healthier before covid-19 than after. There is a significant increase in fertility due to COVID-19 lockdown at $p = .012$; and a significant difference between outbreak of COVID-19 and lack of access to healthcare facilities at $p = .001$. This means that excessive lockdowns and work-from-home orchestrated by covid-19 made couples to meet more frequently, thereby resulting in more births given the difficulty in accessing contraceptives and family planning services at that pandemic period. Besides, the lockdowns resulted in the lockup of so many healthcare facilities, and hindered access to healthcare facilities It was therefore recommended that awareness creation about opportunities that Covid-19- orchestrated changes have brought in Southeast should commence without wasting time.

Keywords: Covid-19 pandemic, Livelihoods, Demographics, Health, Residents

INTRODUCTION

The COVID-19 pandemic, caused by the novel coronavirus SARS-CoV-2, emerged in late 2019 and swiftly evolved into a global health crisis with unprecedented social, economic, and public health ramifications (Panovska-Griffiths, 2020). The pandemic disrupted societies worldwide, profoundly impacting various aspects of daily life, and challenging the resilience of communities and healthcare systems (Xiong, Zhang, Watson, Sundin, Bufford, Zoller & Ramirez, 2020).

Nigeria, a populous African nation, was not immune to the ravages of the pandemic. The country reported

its first confirmed COVID-19 case on February 27, 2020 (Nigeria Centre for Disease Control and Prevention, 2020; Aiyewumi & Okeke, 2020). The Nigerian government, both at the federal and state levels, responded with a series of containment measures, including lockdowns, travel restrictions, and the enforcement of public health guidelines. These measures were implemented to curb the spread of the virus, protect public health, and manage the healthcare system's capacity. However, these measures had far-reaching consequences on various aspects of life in Nigeria.

The South-East region of Nigeria, comprising Abia, Anambra, Ebonyi, Enugu, and Imo states, is a densely populated and culturally vibrant region known for its thriving businesses and strong community ties. Like the rest of the country, the South-Eastern states experienced the impact of the COVID-19 pandemic. This study seeks to interrogate the effects of the COVID-19 pandemic on the livelihoods, demographics, and health of the residents of South-East Nigeria. It is prompted by the recognition that the pandemic's implications extend beyond the immediate health crisis, affecting multiple dimensions of society. For example, on livelihoods, the lockdowns and containment measures disrupted economic activities, particularly small businesses, informal sector enterprises, and daily wage laborers. These disruptions in some other western societies have been connected to income losses and economic hardship for many households (Wang, He, Song, Chen, & Luo, 2022). Hundreds of millions of people are at risk of being in extreme poverty because of covid-19 pandemic as covid-19 pandemic has decimated jobs and put millions of people's livelihoods in danger (Joseph, 2022). In fact, Joseph (2022) argues that boarder closures, trade restrictions and confinement measures made it difficult for farmers to access markets, acquire inputs, and sell their produce; and for agricultural workers to harvest crops, thereby disrupting domestic and international food supply chain and reducing access to healthy, safe and varieties of diets.

Also, on demographics, studies by katikiredi, Hainey and Beale (2021) and Liu, Dean, and Elder, (2023) have shown that the pandemic affected different vulnerable population subgroups differently, including the elderly, children, those with pre-existing health conditions and ethnic minorities. Emery and Koops (2022) argue that restrictions on service provision is capable of reducing access to family planning and increase fertility in the short term while the economic uncertainty brought about by the pandemic and its impact on mental health and well-being may reduce fertility. Therefore, understanding the demographic impact of COVID-19 is essential for informed policy responses, especially for specific regions such as the South-East Nigeria. On health, the pandemic strained healthcare systems, leading to challenges in accessing healthcare for non-COVID-19-related issues. In fact, patients with other disease conditions shy away from visiting health facilities (Haileamlak, 2021). Covid-19 disrupted both preventive and curative services for communicable and non-communicable diseases; many essential services were delayed by healthcare facilities; and patients were scared from attending follow-ups and acute care because of covid-19 orchestrated anxiety (Haileamlak, 2021). The virus also underscored the importance of robust healthcare infrastructure (World Health Organization: WHO, 2022).

This research therefore shall provide a comprehensive analysis of the pandemic's effects in South-East Nigeria, taking into account the unique social, economic, and demographic characteristics of the region. It seeks to know how the livelihoods of the people have been affected by the pandemic, and what coping mechanisms the residents have employed; the demographic patterns of COVID-19 cases and impacts, and how these patterns evolved over time; the state of healthcare infrastructure in the region, and how well it responded to the healthcare needs arising from the pandemic. This will aid in the understanding of the COVID-19 pandemic's multifaceted consequences, providing insights for local and national policymakers, public health authorities, and civil society organizations to design more targeted and effective interventions.

Statement of the Problem

The demographic and health conditions of the South-East Nigeria has been on the lowering tempo with a constant decline of livelihoods as there are not any or enough socioeconomic provisions that could help in

lifting many of the households members off the poverty line. Southeast Nigeria which is made up of five (5) Igbo speaking dominated States are basically civil service and business occupational areas whose workers are barely paid by the government, in turn creates a vicious circle of poverty ravaging populace. Therefore it is an increasing challenge that calls for urgent attention and appraisal, as it evident that public mega projects and higher public investments are absent, thereby leaving economic growth too low in South-East Nigeria, of which is the relevant reason for this study.

As important as health conditions, demographics, and households livelihood are to life, poverty still remains a hindrance to the actualization of these basic necessities, which becomes a multiplying social problem because an individual's income level, determines to what extent he or she could access good health facilities, feed well, afford good shelter, be educated, and achieve other social expectations in order to secure a good living condition. As a challenge people such as youth and females hardly have the required resources to take care of themselves and their households. The demanding peculiarity of this issue calls for a critical analysis or appraisal of the implications of covid-19 pandemic on the indigenes of south-east Nigeria, with particular reference to their livelihoods, demographic and health conditions. It is a problem that needs to be urgently addressed, as it is the nature of negative social issues to multiply adversely if neglected overtime.

Objectives of the Study:

This study is guided by the following specific objectives:

1. To find out the effects of covid-19 pandemic on the livelihoods of residents of South-East Nigeria
2. To ascertain the effects of covid-19 pandemic on the demographic conditions of residents of South-East Nigeria
3. To determine the effects of covid-19 pandemic on the health conditions of residents of South-East Nigeria
4. To find out how the living condition (livelihoods) of residents of South-East Nigeria can be improved.

Research Questions:

The following research questions will be posed for this study:

1. What are the effects of covid-19 pandemic on the livelihoods of residents of South-East Nigeria?
2. What are the effects of covid-19 pandemic on the demographic conditions of residents of South-East Nigeria?
3. What are the effects of covid-19 pandemic on the health condition of residents of South-East Nigeria?
4. How can the living conditions (livelihoods) of residents of South-East Nigeria be improved?

THEORETICAL FRAMEWORK

Theories of Impact of Population Growth on Society” by Jack Goldstone and Stephen Sanderson

This paper is explained using the combination of theories of “impact of population growth on society” by Jack Goldstone and Stephen Sanderson because they are the major theories that try to place demographic events and behaviour in the context of other global change especially political change, economic development and increase in cities (Weeks 2008). Weeks (2008) holds that reformulations of the demographic transition perspective have emphasized its evolutionary character and have shown that the demographic transition is not one monolithic change, but it encompasses several interrelated transitions: a decline in mortality will almost necessarily be followed by a decline in fertility, and by subsequent transitions in migration, urbanization, the age structure, and the family and household structure.

Jack Goldstone theory posits that population growth is a precursor of change in the modern world. Of course the issues of declined households livelihoods, unemployment, increased labour force especially those that are unemployable and deteriorated health conditions are all contemporary issues of change that resulted from population growth. Even the issue of covid-19 pandemic has been attributed to population growth as so many accounts have reported that the novel Corona Virus was a weapon for population control. Goldstone argues that population growth in the presence of rigid social structures produces dramatic political change (Weeks, 2008). Some of the political changes could be in the area of non implementation of policies that favour job creation and economic empowerment as we have in Nigeria in this covid-19 pandemic era. In some societies with no real opportunities for social mobility, Goldstone holds that population growth, which initially increases the number of young persons, leads to disaffection and popular unrest and creates a new cohort of young people receptive to new ideas (Weeks, 2008). This may definitely result in rebellion and if care is not taken revolution. For example, look at the cases of Niger Delta Avengers, Boko Haram, Bandits, end-sars campaigns, agitations for referendum and independence, kidnapping, and so on in Nigeria today, producing situations of social unrest with the use of sophisticated weapons and thereby escalating loss of livelihoods and poverty levels in the country in this covid-19 era.

Sanderson (1995 in Weeks, 2008) promotes the idea that population growth has been an important stimulus to change throughout human history especially since the Agricultural Revolution. He argues that “had Paleolithic hunter-gatherers been able to keep their population from growing, the whole world would likely still be surviving entirely by hunting and gathering. Instead population growth generated Agricultural Revolution and then the Industrial Revolution. This situation increases social complexities and the rise of cities thereby making the global population largely urban. For example, the increase in urban population in Nigeria has a profound impact in the rate of unemployment, poor man-power development, underemployment deteriorated livelihoods, wars, crises, internal displacement, in the covid-19 pandemic Nigeria

Hypotheses:

The following hypotheses were formulated for this study:

1. There is a significant relationship between Covid-19 lockdown and increase in fertility among couples in South-East Nigeria
2. There is a significant relationship between Covid-19 pandemic and access to healthcare facilities in South-East Nigeria

METHODOLOGY

Research Design: The study will adopt a cross-sectional survey design. This design will allow the researchers study a large population at a relatively less time, and it will guarantee the generation of extensive data (quantitative and qualitative) for the study.

Area of the Study: The study is carried out in South-east Nigeria, one of the six geo-political zones in the country. Other geopolitical zones include: North-east, North-west, North-central, southwest and South-south. South-east Nigeria presently consists of five states viz: Abia, Imo, Ebonyi, Enugu and Anambra States; and 95 Local Government Areas which cut across the five states (Abia State 17 LGAs, Imo 27, Ebonyi 13, Enugu 17, Anambra 21). The major language of the region is Igbo.

Population of the Study: South-East Nigeria based on 2006 national Population and Housing Census has a total population of 16,395,555 people (male 8,184,951 and female 8,210,604). The population was projected

to 2021 as follows:

Table 1: Projected Population of South-East Nigeria by Gender and States

States	2006 Male Population	2021 Projected Male Population	2006 Female Population	2021 Projected Female Population	2006 Total Population	2021 Projected Total Population
Abia	1,430,298	2,294,151	1,415,082	2,269,745	2,845,380	4,563,896
Anambra	2,117,984	3,397,177	2,059,844	3,303,922	4,177,828	6,701,099
Ebonyi	1,064,156	1,706,871	1,112,791	1,784,880	2,176,947	3,491,751
Enugu	1,596,042	2,559,999	1,671,795	2,681,504	3,267,837	5,241,503
Imo	1,976,471	3,170,195	1,951,092	3,129,487	3,927,563	6,299,682
Total	8,184,951	13,128,392	8,210,604	13,169,539	16,395,555	26,297,931

Source: National Population Commission (2010). 2006 population and housing census priority table volume iv. Population distribution by age and sex (state and local government area). Table DS5, Abuja: NPC

The target population of the study is 3,904 being the population of some four (4) relevant population categories for this study which cut across the study area. The population categories are as follows: the women, the men, the youths, and opinion moulders (e.g. health workers, teachers, religious leaders and market group leaders). The target population is shown in table 2.

Table 2: Target population for the Study

Population categories	LaguruUbakala community Abia State	Ihube Community Imo State	Isiagu Community, Ebonyi State	Total
The Men	200	350	230	780
The Women	350	415	400	1,165
Opinion Moulders	80	82	67	229
The Youths	500	680	550	1,730
Total	1,130	1,527	1,247	3,904

Sources: Official records/registers of the men’s group, the women’s group, primary health centres/hospital/clinics, community unions, tradition rulers/titled men/women, market groups, schools, and the youths in the study area

Scope of the Study

The study will be limited to the effects of covid-19-pandemicon livelihoods, demographics and health of residents of South-East Nigeria focusing on Abia, Imo and Ebonyi States. The main purpose of their inclusion was purely on random selection in which the five states of South-East Nigeria were listed and three picked without replacement.

Sample size

The sample size will be 865 residents of south-East Nigeria. This will be statistically generated by using Taro Yamane statistical method of determining sample size as thus:

$$n = \frac{N}{1+N(e)^2}$$

where: n = Sample size

N = Target Population

e = error of sample (it could be 0.10 down to 0.01, but in this work, 0.03 was used)

1 = unity or constant

Therefore;

$$n = \frac{3904}{1+3904(.03)^2}$$

$$n = \frac{3904}{1+3904(0.0009)}$$

$$n = \frac{3904}{1+3.5136}$$

$$n = \frac{3904}{4.5136}$$

$$n = 864.9$$

$$n = 865 \text{ residents}$$

Sampling Technique

This study will adopt a multistage sampling procedure involving simple random sampling, cluster sampling, proportionate stratified sampling and availability sampling to select respondents for the study. Firstly, the five states in South-East Nigeria were numbered and three selected using simple random sampling. The selected states are Abia, Imo and Ebonyi.

Secondly, the states were clustered into nine senatorial districts, three from each state and three senatorial districts, one from each, were selected using simple random sampling. The senatorial districts are Abia Central, Imo North and Ebonyi-South.

Again, the local government areas in the selected Senatorial Districts were numbered and one local government was randomly selected from each of the three selected senatorial districts, making a total of three local government areas. The selected local government areas are Umuahia-South (Abia State), Okigwe (Imo State), and Ivo (Ebonyi State).

Furthermore, the communities in the selected local government areas were numbered, and one community was randomly selected from each of the local government areas, making a total of three communities chosen for the study. The selected communities are Laguru-Ubakala, Ihube and Isiagu. In order to collect appropriate data for the study, four relevant population categories were created in each community. The members of each population category will form the respondents for the study.

The proportionate stratified sampling technique will be used in selecting the respondents from each relevant population category in view of the fact that these population categories do not have equal sizes. Availability sampling will be used to select the actual respondents from each population category as shown in table 3

Table 3: Proportionate Stratified Random Sampling for the Study

State/Community	Population Category	Total	Percentage	Proportionate Calculations	
Abia State Laguru					
	The Men	200	5.12	$200/3904 \times 865/1$	= 44
	The Women	350	8.97	$350/3904 \times 865/1$	= 78
	Opinion Moulders	80	2.05	$80/3904 \times 865/1$	= 18
	The Youths	500	12.81	$500/3904 \times 865/1$	= 111
Imo State Ihube					
	The Men	350	8.97	$350/3904 \times 865/1$	= 78
	The Women	415	10.63	$415/3904 \times 865/1$	= 92
	Opinion Moulders	82	2.1	$82/3904 \times 865/1$	= 18
	The Youths	680	17.42	$680/3904 \times 865/1$	= 151
Ebonyi State Isiagu					
	The Men	230	5.89	$230/3904 \times 865/1$	= 51
	The Women	400	10.25	$400/3904 \times 865/1$	= 87
	Opinion Moulders	67	1.72	$67/3904 \times 865/1$	= 15
	The Youths	550	14.09	$550/3904 \times 865/1$	= 122
Total		3,904	100		= 865

For the qualitative data, a total of One Hundred and Twenty (120) participants will be purposively selected to participate in 12 Focus Group Discussions (FGDs) comprising ten (10) participants in each group across the three (3) communities based on either availability or their leadership positions in the relevant qualitative population categories. These qualitative population categories are the same with relevant quantitative population categories. The FGDs will be carried out as follows:

1. Three FGDs for men (One from each of the communities)
2. Three FGDs for women (One from each of the communities)
3. Three FGDs for youths (One from each of the communities)
4. Three FGDs for opinion moulders (One from each of the communities)

Instruments for Data Collection

Questionnaire and Focus Group Discussion were used to collect data for this study because of the need for a mixed-method research (in this case was 50% quantitative and 50% qualitative). The questionnaire was used to collect quantitative data and it was highly structured with only few unstructured questions; and it was divided into two major parts: the first part is the socio-demographic characteristics of the respondents while the other part addressed the substantive issues in Covid-19-orchestrated-poverty in south-east Nigeria: the demographics and health of persons with deteriorated livelihoods.

The focused group discussion on the other hand was used to gather qualitative data to compliment the quantitative data for further insights into the livelihood, demographic and health effects of Covid-19 pandemic on residents of South-East Nigeria. The FGD guide was highly unstructured questions with relevant probes.

Administration of instruments

The questionnaire was administered by the four researchers themselves with the aid of two research

assistants. The research assistants were recruited on the basis of their ability to read, write and understand both English and Igbo languages as the major languages spoken in the areas. They were trained for two days on the purpose of the study, relevance of the study, administration and retrieval of questionnaire. The focus Group Discussion was conducted by the researchers themselves (one person for two groups) in each of the communities while others recorded and took notes as the FGDs were on.

METHOD OF DATA ANALYSIS

The quantitative data was processed with SPSS Version 20. The socio-demographic data and the substantive issues were analyzed using descriptive statistics such as simple frequency tables, percentages, graphs and charts. Inferential statistics particularly, ANOVA was used to test the stated hypotheses. The qualitative data were analyzed using content analysis which is a thematic analysis in which transcripts were edited and coded in line with the objectives of the study in order to compliment quantitative data.

FINDINGS

In the study, a total of eight hundred and sixty-five (**865**) copies of questionnaire were distributed to the respondents and fully retrieved which formed the basis of analysis.

Socio-Demographic Characteristics of the Respondents

The socio-demographic information of the respondents were statistically analyzed, using the data obtained from the survey conducted. The information is presented in table 4.

Table 4: Socio-Demographic Characteristics of the Respondents

Description	Demographic variables	Frequency	Percentage (%)
Gender	Male	658	76.1
	Female	207	23.9
	Total	865	100
Age at last Birthday	18 – 23	126	14.6
	24 – 29	122	14.1
	30 – 35	347	40.1
	36 – 41	89	10.3
	42 – 47	103	11.9
	48 and above	78	9
	Total	865	100
Marital Status	Never Married	310	35.8
	Married	289	33.4
	Separated	51	5.9
	Divorced	76	8.8
	Widowed	139	16.1
	Total	865	100
Place of Residence	Rural	389	44.9
	Urban	476	55

	Total	865	100
Educational Attainment	No Formal education	64	7.4
	FSLC	198	22.9
	WASC/SSCE/GCE	231	26.7
	B.Sc./HND	321	37.1
	M.Sc. /PhD	51	5.9
	Total	865	100
Occupation	Unemployed	189	21.8
	Student	85	9.8
	Self-employed	132	15.3
	Public Servant	211	24.4
	Business/Trading	212	24.5
	Apprentice	36	4.2
	Total	865	100
Income Status	Below N25,000	163	18.8
	N25,000 – N49,999	213	24.6
	N50,000 – N74,999	135	15.6
	N75,000 – N99,999	91	10.5
	N100,000 and Above	263	30.4
	Total	865	100

Source: Field Survey, 2023

Table 4 shows the socio-demographic data of the respondents. From the table it could be observed that a majority of the respondents 658(76.1%) were male, while 207(23.9%) were female. The age bracket shows that a majority of the respondents 347(40.1%) were between the age 30 – 35 years of age, while 78(9.0%) were between the age 48 years and above. This result is partly supported by the work of Xu, Wang, Liu, Wu, Li, Miao, Zhang, Yang, Sun Zhu, Fan, Chen, Hu Liu and Wang (2020) who had a majority 2854 (56.4%) of their respondents within the wider age bracket of 30-49 years, in their study of “covid-19 in Wuhan: Socio-demographic characteristics and hospital support measures associated with immediate psychological impact on healthcare workers”, using a total of 5062 respondents. In terms of marriage it could be observed that a majority of the respondents 310(35.8%) were never married while 51(5.9%) were separated. Majority of the respondents 476(55.0%) reside in urban area; a majority of the respondents 321(37.1%) were B.sc and HND holders while 51(5.9%) had M.sc and PhD. This particular result is on education is supported by Chilunga, Coyer, Collard, Leenstra, Galekkamp, Agyemang, prins and Stonks (2022) who had adequate healthy literature participants (95.7%) with most participants educated to university level (45.4%). In terms of occupation 212(24.5%) were into business and trade while 85(9.8%) were students. Lastly, in terms of income majority of the respondents 213(24.6%) earn between N25,000 to N49,999.

Substantive Issues

Research Question One: What are the effects of Covid-19 pandemic on the livelihoods of residents of South-East Nigeria? Items, 9 11, 12, and 14, in the questionnaire (see appendix 11) were designed to answer this research questions. The findings are presented in fig. 1.

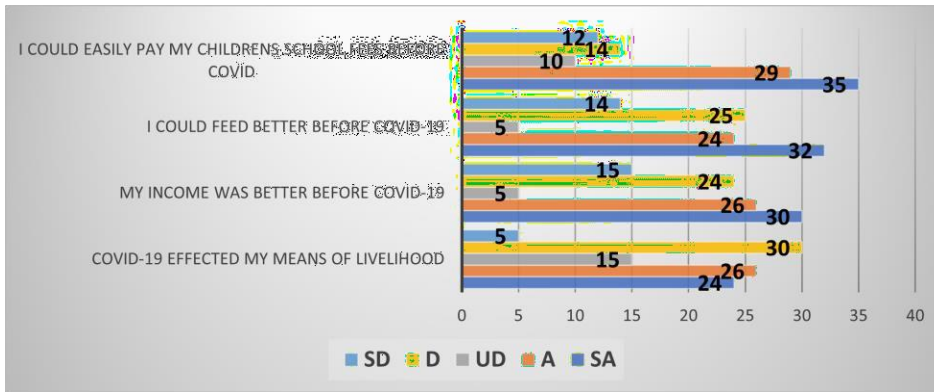


Fig. 1: Effects of COVID-19 Pandemic on Livelihoods of Residents of South-East Nigeria

Fig.1, the first variable is centered on the capacity to pay children’s school fees, it could be observed that more of the respondents 303(35%) strongly agreed that they paid their children’s school fees easily prior to COVID-19; 251(29%) agreed; 121(14%) disagreed; 104(12%) strongly disagreed while 87(10%) were undecided. This means that a majority of the respondents 554 (64%), just like the FGD participants, agreed that they could easily pay their children’s fees before covid-19 than after covid-19 period. An FGD participant, for example, narrated that:

Right from the onset of covid-19 till date, the cost of things in the market has been rising and our salaries cannot even feed our families let alone paying our children’s school fees. We really find it difficult to pay our children’s school fees now than before covid-19. Covid-19 made our salaries to loose value. The government has not even come to our aid by at least, increasing our salaries, instead they owe us salary arrears...(FGD/05/09/2023/Opinion Moulder/HealthWorker)

Another participant said, “ahhh, partially, when it comes to budgeting, my salary can no longer carry as like before because of the economic effect of covid-19” (FGD/05/09/2023/women association executive/public servant). Another said “covid-19 made me to start life afresh as me and family consumed all that labored for because of lockdown” (FGD/05/09/2023/men’s union Leader/trader). A participant narrated:

Talking of children’s school fees, I don’t have children yet but I myself, I am in school and I am the one that pays my school fees myself. I am running an M.Sc programme and I started it before Covid-19. When I started, paying my school was a bit easy but after covid-19 money was not coming like before from the place of work, salaries were being delayed and there was a kind of set-back in the area of payment of school fees because one has to gather up in order to be able to pay school fees, make feeding expenses and that of house rent, so it’s not easy (FGD/07/09/2023/Opinion Moulder/teacher)

One of the participants also: “I was paying my children’s school fees without stress before covid-19. During Covid-19, there was no school but after Covid-19, things became difficult, and to pay my children’s school fees now is very difficult and stressful” (FGD/09/09/2023/Men’s union Executive/business man/trader). A participant also said: in terms of payment of children’s school fees, as a person, it was easier for me before covid-19 than after because things took time to normalize after Covid-19 putting families in debt” (FGD/07/09/2023/Opinion Moulder/teacher/religious leader). Another said: “I really find it difficult to pay my children’s school fees now that before covid-19 period because after Covid-19 in 2020, schools started increasing their fees instead of reducing it as palliative for parents, sir, parents are going through a lot(FGD/07/09/2023/women’s association/trader). Another narrated:

I am a student in my finals, my parents used to give me my school fees to pay once I am returning to school at the beginning of the semester before Covid-19 but after the pandemic, things changed. As it stands now, I

only when exams are about to commence because it is not easy for parents (**FGD/05/09/2023/youth Association/student**).

Another youth also said: “from the period of covid-19 till date, bills are hard to pay not just children’s school fees. Things are expensive that even if you make one million naira, a month, it may not be enough” (**FGD/09/09/2023/Youth Executive/Electrician**). One of the participants corroborated this as thus: “you see as a photographer, Covid-19 affected gatherings and events and money was not coming to me rather I was spending the ones I saved that when school resumed after Covid-19 it became difficult for me to pay my children’s school fees, but all together, God is helping us (**FGD/09/09/2023/Men’s Association executive/Photographer**). Another participant said:

Yes, it affected me, things became difficult, not the how it used to be before. Because there is no money, you now look at the face of your fellow human being before you eat, pay children’s school fees and do other things (**FGD/09/09/2023/women’s association/trader**).

Another also said: “hmmm, sir please don’t go there, I don’t want to start crying, our experience in terms of our parents paying our school fees is the worse compared to others” (**FGD/07/09/2023/youth Association/student**).

In fact, there is no differing opinion on this at all as all the FGD participants towed the same direction. The explanation to this could go beyond Covid-19 experiences to other emergent issues in Nigeria such as End-Sars Campaign, intensification of secessionists’ agitations and emergent of Kidnappers in South-East Nigeria that occurred simultaneously.

The second variable is on whether the respondents could feed better prior to COVID-19, the findings show that a majority of the respondents 484(56%), that is, 277(32%) strongly agreed and 208(24%) agreed, agreed that they fed better prior to COVID-19 than during and after COVID-19; a total of 337(39%), that is, 216 (25%) disagreed and 121(14%) strongly disagreed, did not agree that they fed better prior to COVID-19 while only 43(5%) were undecided. This corroborated almost all the FGD narratives that showed that things are more difficult now than it used to be before the onset of COVID-19 pandemic, and as such, many families find it difficult to eat just a square meal in a day. A participant, for example, said:

Emmmm, before Covid-19, my feeding was ok, Covid-19 came, there was a total shut-down, money was not flowing which led to a lot of borrowing of money to make ends meet and the little money in your hand will now be to sort out the loans while little or nothing will be left for feeding (**FGD/07/09/2023/Opinion Moulder/teacher**).

Again, a participant said: “Emmmm, I was feeding better before than during and after covid-19 because things were cheaper then, let me not prolong the issue” (**FGD/09/09/2023/women’s association/trader**). Furthermore, a participant narrated as thus:

Ehhh, before Covid-19 things were cheaper in the market and I was feeding well with my children. The price of a bag of rice then was not as high as it is today after Covid-19. The truth is that the prices of food stuff and other goods skyrocketed after Covid-19 (**FGD/09/09/2023/Men’s Association/trader**).

Another also said: “yes it did, markets were closed” (**FGD/05/09/2023/Opinion Moulder/public Servant**). A female student who participated in the FGD in one of the communities narrated:

I can remember then how we ate once a day, there were times we didn’t even eat close to a week or two until my mum couldn’t condole it and wanted to go outside, I stopped her reminding her that her being alive is enough for us than her worrying about what we are to eat because we are grownups and could actually

stand not eating all the time but God helped us that someone sent us foodstuffs at that period which we managed. Even after the pandemic subsided, going back to how it used to be has been difficult. My siblings have to stop school to look for jobs to relief the burden on my mum's shoulder until I leave school **(FGD/05/09/2023/Youth organization member/Student)**

One of the participants said: "yes we fed better before Covid-19 than now. If hunger did not kill us during Covid-19 period, we will not die again; even after Covid-19 hunger has been dealing with but we refuse to die **(FGD/05/09/2023/Men's Association/Retired Head Teacher)**". Still on the same page, another FGD participant said:

Yes, due to the social distancing, marketers do not come out to sell, getting foodstuff from the market was actually a hard one which caused reduction in feeding during Covid-19. The periods after the reduction of covid-19 was a period people are trying to pick up and there is no how one can compare it with the period before the Pandemic with regards to feeding **(FGD/07/09/2023/Youth organization member/Musician)**.

Another said: "ha! With the prices of things in the market now, you are comparing feeding now and prior to Covid-19 time, it's not possible nah" **(FGD/09/09/2023/Youth organization member/trader)**. Similarly, a participant also said: Covid-19 made almost everyone to start afresh, having spent their savings as it was in my case, there was no way anyone will claim to be feeding well now than before Covid-19. For me, I fed well before Covid-19 than during Covid-19 and after **(FGD/07/09/2023/Men Association/Photographer)**. Other participants corroborated the narratives of others as thus: "Covid-19 affected our feeding badly as a family but God Almighty helped us and he is still helping us; if not for his help, how could we have been overcoming the escalation in prices of foodstuffs and fuel" **(FGD/09/09/2023/Opinion Moulder/Religious Leader)**; "If not for Covid-19, I could have feeding my family well as it was before Covid-19 **(FGD/05/09/2023/Women Association member/Trader)**"; "Feeding this post-covid-19 period is just management, things are no more what it used to be **(FGD/07/09/2023/Women Association Executive/retired teacher)**". There is no differing opinion with regard to whether people fed better the pandemic and after as the entire participants agreed that the period before Covid-19 was better than the period after covid-19 in terms of feeding.

The next variable is on income being better before COVID-19, the data show that 260(30%) strongly agreed; 225(26%) agreed that their income was better before the onset of COVID-19; 43(5%) were undecided; 208(24%) disagreed while 130(15%) strongly disagreed that their income was better before the onset of COVID-19. This shows that a majority of respondents 484 (56%) agreed that their income was better off before COVID-19 than during and after COVID-19 pandemic. This also corroborated the qualitative data. One of the participants, for example, narrated: "It affected my income as a student because we were not in school to receive pocket money as we always do when in school and things were tough for our uncles, so, it affected our stipends" **(FGD/07/09/2023/Youth Executive/Student)**. Some of the participants also spoke towards this direction:

Um, um, yes, it affected my income. I do catering work and during that period of time, there was no ceremony, there was restriction of gatherings that might needed catering services. There was only indoor meetings available who needed the service. This affected my income greatly **(FGD/09/09/2023/Youth Association Member/Caterer)**

Ah! Covid-19 interrupted my petty trade and affected my income due scantiness of customers patronizing my clothe business; their main concern was on food items for survival of their families. Only very few people came to clothes at that time, and small sales will end up being used to food items which nearly collapsed my business after the pandemic **(FGD/05/09/2023/ Women's Union/Market Group Leader/Trader)**

Another participant still towed the same direction, the participant said: "Let me tell you, I deal in furnitures,

my shop was locked up all through, when then did you expect my income to come from. In fact, Covid-19 shut down my income” (FGD/09/09/2023/ Men,s Union/ /Trader/Carpenter). Another also said:

Covid-19 somehow favoured my business, I was able to all the foodstuff in my disposal because neighbours came to my house to buy since they know I sell those things but where I had problem and which affected my income was to restock. The policies of the day did not give me the room to travel and since I could not restock my income stopped flowing and I tampered with my capital (FGD/07/09/2023/ Women’s Union /Trader)

A participant also said:

As a hair dresser my shop was not functioning because people were not coming to make their hair because of lockdowns and social distancing. The few that sermon courage to call me for home services could not afford it because of the price I told them (FGD/09/09/2023/ Women’s Union /Hair Dresser)

A participant also narrated: “Yes, greatly, I was not paid salary as a teacher in private school, all through the Covid-19 period, I was not paid salary” (FGD/05/09/2023/Opinion Moulder/teacher). To further corroborate this, a participant said: “Government was not fair to us during Covid-19, I was only paid once throughout the period (FGD/09/09/2023/Opinion Moulder/Public Servant) and another said: “yes, movement was restricted which negatively affected my business, job and consequently my income” (FGD/07/09/2023/Opinion Moulder/Religious Leader/Public Servant). Still on this, a participant said: “I am still a student but I know my parents complained that they were not being paid salaries during Covid-19 pandemic” (FGD/05/09/2023/Youth Association Member/Caterer). One male participant also said:

Eemmmm! Covid-19 period was a very bad time, Personally, I will it affected my income a lot, the pandemic led to us going out job for some time, the little income I was getting from my job was now no more and I couldn’t provide for my family as I usually did (FGD/05/09/2023/ Men,s Union/public servant/Engineer)

However, it only one participant that gave differing opinion on this issue, the participant said: “My income was not affected because as a policeman, I was always going to work and my income was flowing” (FGD/07/09/2023/ Men,s Union/Police man/public servant). This could be as a result of the fact that security officers were allowed to work during Covid-19 to enforce compliance to Covid-19 containment measures.

The last variable looked at whether COVID-19 affected respondents’ means of livelihood, 260(30%) disagreed; 43(5%) strongly disagreed; 130(15%) were undecided; 225(26%) agreed and 208(24%) strongly agreed. This means that half of the respondents 433(50%) confirmed that their means of livelihoods were affected by COVID-19 pandemic. This corroborated with the FGD outcomes as the narratives of over half of the participants in the FGD groups and communities showed that their means of livelihoods were negatively affected by COVID-19. An FGD participant, for example, said:

I am trader, one of the market group executives but the hunger that COVID-19 brought made me to sell off a lot of my goods; and this is my only means of livelihood. I have not gotten myself since then, look at the condition of my shop, I don’t know where to go from here (FGD/05/09/2023/ Men,s Union/Market Group Leader/Trader)

A participant narrated that:

Covid-19 was a kind of set-back- financially, strategic plan, means of livelihood and especially career pursuit. I ought to have concluded my M.Sc programme today but due to the Covid-19 there was a little bit

set-back in the academic session and the programme is still on. This is indeed dividing my attention and affecting my job because it is my only means of livelihood for now. Tell me, how can one survive? **(FGD/07/09/2023/Opinion Moulder/teacher)**

Some of the participants also said:

Yes, Covid-19 affected my business seriously, as a photographer, I make money by covering events but during the Covid-19 events and all forms of gatherings were stopped, this made me to spend the money I saved. I started all over again after Covid-19 **(FGD/07/09/2023/Men's Association/Photographer)**.

My livelihood and that of my family was taken aback by Covid-19 because we didn't see it coming and had no other means for sourcing of income and living well. No savings, I was still in school so I didn't have a job or something doing to support my family **(FGD/05/09/2023/Youth organization member/student)**

Before Covid-19, our means of livelihood was generally more stable and predictable. Businesses were operating normally, and my parents had steady jobs and incomes. However, after Covid-19 hit, our business had to close and their operations reduced, leading to job losses and financial uncertainty. So, in comparison, the means of livelihood was generally better before the pandemic. Even school calendar became faster just to cover up and students to have enough time to learn as should **(FGD/07/09/2023/Youth executive/student)**

A participant said: "if I am to say, I will say it affected my livelihood greatly because we stopped going to work and some members of our ministry stopped attending services during period of the pandemic" **(FGD/07/09/2023/Opinion Moulder/Religious Leader/Public Servant)**. Another participant narrated as thus:

Alright, emmm... During Covid-19 most of our jobs came to a halt, which was the case for me, I had to look for an alternative, so I turned from being an Engineer to a farmer because I had a large space of land behind my house, we had all the equipments, seeds, tools for planting, but we had always overlooked farming because we had these white collar jobs paying our bills, but this time, we got into farming, my wife and I, we were then sustaining ourselves from the farm produce while we sold those we could sell **(FGD/05/09/2023/ Men's Union/public servant/Engineer)**

One of the participants also said:

Just for the first week but I was able to pick myself back up. I sell foodstuffs but the first week there was no sales, I lost a lot of money at that time until the government were able to bring out a new medium for us to sell our goods in line with Covid-19 Precaution measures **(FGD/05/09/2023/Women Association leader/Trader)**

One of the youth, however, said:

Covid-19 didn't really affect my livelihood because most of my clients in my field of work were online. I am into Real Estate business and we live in a digital world where business can be conducted with the use of devices. So, my job or means of livelihood didn't really change **(FGD/09/09/2023/Youth executive/Realtor)**

Another also said: "It did not affect me much, I engaged myself in health centre work as my normal means of income was no more flowing smoothly" **(FGD/09/09/2023/Opinion Moulder /Public Servant/Health worker)**. One of the participants also said: "the thing did not affect my business, I was making sales from home, I even made a lot of profits because I had to increase the prices under the Covid-19 condition, it favoured, I will not lie to you **(FGD/07/09/2023/Women Association leader/Business Woman)**. Another

also said: “it did not really affect me that much, I was still going people’s houses to supply foodstuff to them” (FGD/09/09/2023/Women Association leader/Trader)

Research Question Two: What are the effects of Covid-19-pandemic on the demographic conditions of residents of South-East Nigeria? Items, 18, 19, 20, and 21, in the questionnaire (see appendix 11) were used to answer this research question. The findings are presented in fig. 2:

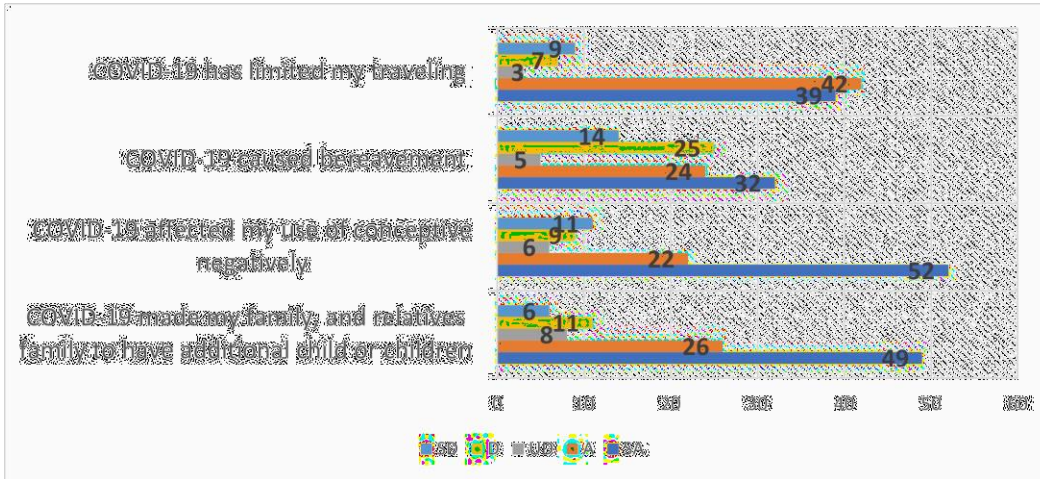


Fig. 2: Effects of Covid-19 Pandemic on Demographic Conditions of Residents of South-East Nigeria

In Fig. 2, the first variable is centered on if COVID-19 has limited the traveling of the respondents, it was found that 363(42%) of the respondents agreed, 337(39%) strongly agreed that COVID-19 limited their traveling while 78(9%) strongly disagreed, 61(7%) disagreed that COVID-19 limited their travelling while 26(3%) were undecided. This shows that a majority of the respondents 700(81%) admitted that COVID-19 curtailed their movement. This corroborated the qualitative findings as almost all the participants said that their movement was especially traveling outside their state was limited because of lockdown and economic situation at that time. One of the participants, for example, narrated:

I was traveling freely before Covid-19 like every other person but Covid-19 came with a lot of restrictions, for example, there were Covid-19 teams on the way, someone without face mask is not allowed into the bus; buses that used to carry four passengers in a row was then carrying three passengers in a row in the name of social distancing and transportation fare went up to cover up the fares of those passengers that are missing because of social distancing as if we are in fuel scarcity period (FGD/07/09/2023/Men’s Association/Photographer)

Another said: “I was able to travel freely before Covid-19 because the traveling procedures were less complicated but after the Covid-19, the precautionary measures increased and was more strict” (FGD/07/09/2023/Youth executive/Student). One participant also said: “I travelled more before covid-19. This was due to traveling restrictions during Covid-19 and other issue that cropped up after the pandemic (FGD/05/09/2023/Men’s Association/Business man). Another FGD participant said:

As an engineer, I am someone that travels often, for different jobs and contracts. But as a result of the pandemic I had to limit my travellings and trips to the barest minimum. Part of the reason was because of the strict precautions, but for me, it was mostly fear of contracting the deadly virus and spreading it to my family and loved ones. (FGD/05/09/2023/ Men,s Union/public servant/Engineer)

One of the participants said ”I was able to travel freely before the COVID-19 than after because there was no restrictions with movement until the pandemic“(FGD/07/09/2023/Opinion Moulder/Religious Leader/Public Servant). Another participant said: “yes it did, movement was curtailed, there was no free

movement that time and the medium of movement became very difficult as trekking was the only means (**FGD/05/09/2023/Women Association leader/Trader**). In fact, almost all the participants agreed that Covid-19 affected their movement negatively except in one case where the participant said: “I am not the traveling type, I live in this village and do my business in this community, I am farmer to be specific, and I don’t farm outside this community” (**FGD/07/09/2023/Women Association leader/Farmer**)

The second variable centered on if COVID-19 caused bereavement among the respondents, it was found that more of the respondents 277(32%) strongly agreed, 216(25%) disagreed, while 208(24%) agreed and 121(14%) strongly disagreed while 43(5%) were undecided. This shows that a majority of the respondents 485(56%) were bereaved as a result of the poverty orchestrated by covid-19. This finding was also corroborated by the qualitative data as more of the FGD participants reported that they lost either a family member or relative. In fact, one of the participants said:

“Covid-19 left a heavy blow on me, I lost my father, my mother and my aunty during covid-19 because they could not receive adequate treat because of lockdown and poverty that accompanied it. Many organization was owing me salary arrears at that time. Of course, I have said earlier that I am a civil servant (**FGD/05/09/2023/Men’s Union Executive/Civil Servant**)

One of the participants also said: I did not lose anyone in family directly but I lost someone in my kindred, so, I will say I was bereaved” (**FGD/05/09/2023/Men’s Association/Business man**). One of the participants said: “I did not lose anyone but every week in my community there used to be more than three burials with Covid-19 team inspecting the observance of the Covid-19 protocols (**FGD/05/2023/Opinion Muolder/Teacher**)

The penultimate variable is on if COVID-19 affected their use of contraceptive negatively the data shows that 450(52%) of the respondent strongly agreed, 190(22%) agreed, while 95(11%) disagreed, 78(9%) strongly disagreed and 52(6%) undecided. This shows that a majority of the respondents 640(74%) agreed that COVID-19 affected their use of contraceptives negatively. This could be due to the excessive lockdown that made a lot of patent medicine stores to lock up thereby affecting their access to contraceptives. FGD data also corroborated this finding. One of the FGD participants, a youth, reported as thus: “when shops and patent medicine stores are locked up, where do you expect people to get condoms from? Or don’t you know that condom is the most common contraceptive we use as young people?” (**FGD/05/09/2023/youth leader/Mechanic**). Another said: “ehhh, the truth is that there was no shop open for us to buy our condom, of course, that’s the only contraceptive I know as a young man but I know that women will know more about this” (**FGD/07/09/2023/youth leader/Trader**). A participant also said: “Ah! The use of contraceptives! All through the period, we didn’t use contraceptives, in fact, normally, we don’t even use contraceptives” (**FGD/05/09/2023/Women Association leader/Trader**)

The last variable on if COVID-19 made respondents family and relatives to have additional child or children, the data shows that 424(49%) strongly agreed, 225(26%) agreed, 95(11%) disagreed, 52(6%) strongly disagreed and 92(8%) were undecided. This means that a majority 649(75%) of the respondents’ families and relatives at their reproductive ages had additional children during the period of covid-19. This could be as a result of the use of contraceptives being negatively affected either because people could not afford them, the government did not extend their palliative towards that direction, or excessive lock downs and sit-at-homes that made couples to constantly stay together. This corroborated the qualitative data as more of the FGD participants’ narratives showed that many of respondents, their families and relatives at their reproductive ages had additional children during the covid-19 period. One of the participants, for example, said:

Hmmm! That one is true, even me, I had a baby during covid-19. That was even a time we thought we had concluded childbearing but because my husband was always at home because of lockdown we were meeting

more frequently, the result was this my baby boy. I know many of family friends and couples in this our neighbourhood that also gave birth during that period. Some even got pregnant during that period and gave birth after the covid-19 period. When someone's husband is always with her, what do you expect the woman to do. Some unmarried people also gave birth because their boyfriends could not go out to buy condoms and patent medicine stores were locked up because lockdown. It was indeed a terrible condition (**FGD/05/09/2023/opinion moulder/teacher**).

Another participant from a different community said: “yes, there was increase of child birth due to idleness coupled with lock-downs that resulted in couples like the case of Aunty who resides in Agbor to give more births than planned. In fact, if her husband narrates this to you, you will laugh (**FGD/07/09/2023/Opinion Moulder/teacher**). Another also said: “a lot of my relatives gave birth because of the pandemic since husbands were always around them at the hit of Covid-19” (**FGD/07/09/2023/Youth Executive/Student**). Another participant said: “yes, four of my friends put to bed that period, I even refer to the children as Covid-19 babies” (**FGD/05/09/2023/Women Association leader/Trader**). A male participant corroborated this, the participant said:

Yes my sister gave birth to their seventh child during that period, It brought mixed feelings as we were happy to welcome the new born baby to the world and at the same time concerned about how they would take care of the baby given the number of children they already had (**FGD/05/09/2023/ Men,s Union/public servant/Engineer**).

Similarly, some of the participants narrated:

Yes oo, I conceived during Covid-19 and later gave birth after. It was not my intension though, but when your husband is always with you, what will you do? My people the common of women in their husbands' houses is pregnancy (**FGD/07/09/2023/ Women,s Union/trader**)

Hmmm, yes I have someone who conceived during Covid-19, she is my aunt, my dad's younger sister, she took in during Covid-19 and we were all happy because she was actually looking for a child, the husband was not always at home before that time but thank God for Covid-19 that made men to stay at home (**FGD/07/09/2023/ Women,s Union/trader**).

I did not have such personal experience, you know my children are all grown up and some are even married but I Know of a colleague that is so close to me who had concluded child birth but Covid-19 him impregnate the wife again. The baby has been born and dedicated (**FGD/09/09/2023/ Opinion Moulder/public servant**)

Another participant also commented in this regard as thus: “My wife conceived during Covid-19 and the child was born in 2021, I don't know about others that had similar experience during the pandemic” (**FGD/07/09/2023/ Men,s Union/Trader**). A participant said: “I don't want to talk about it, loosing a baby is not a praise report” (**FGD/09/09/2023/ Women,s Union/civil servant**). Another said: “My aunty lost her early 2021 during child birth, because she could not receive enough antenatal attention in 2020 because of Covid-19 (**FGD/09/09/2023/ Women,s Union/student**). Furthermore, a participant narrated as thus:

I could have had my last if not for Covid-19, we did know that another baby could enter by mistake but I know what caused it, it was because I was always with my wife because Lockdown, there is no way you will be with your wife and looking at her like that (**FGD/09/09/2023/ Men's Union/Plumber**)

The data implies that COVID-19 have had devastating effect on the participants as all the variables shows a negative outcome.

Research Question Three: What are the effects of Covid-19 pandemic on the health condition of residents of South-East Nigeria? Items, 23, 24, 25, and 26, in the questionnaire (see appendix 11) were used to answer this research question. The findings are presented in fig. 3:

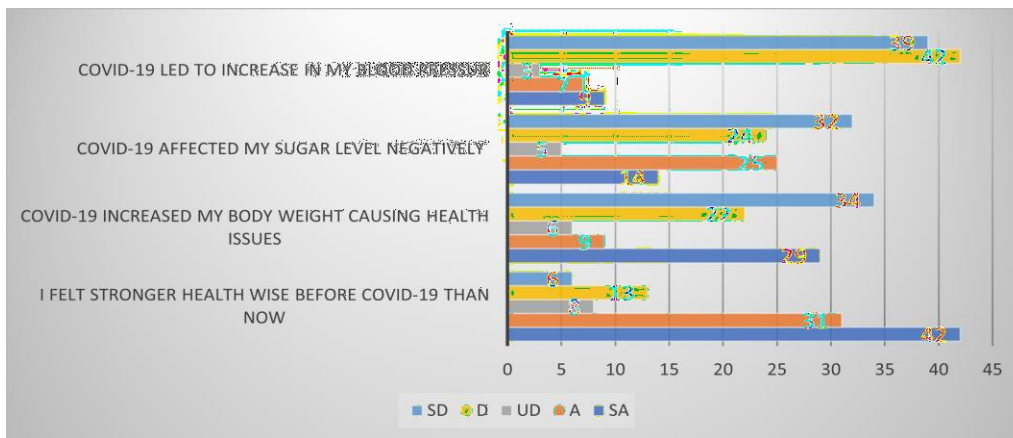


Fig. 3: Effects of Covid-19 Pandemic on Health Conditions of the Residents of South-East Nigeria

The third research question is on COVID-19 and health condition of the respondents; the first variable is on if COVID-19 led to increase in blood pressure of respondents, it was found that 363(42%) of the respondents disagreed, 337(39%) strongly disagreed, while 78(9%) strongly agreed and 61(7%) agreed while 26(3%) were undecided. This means a majority of the respondents 700(81%) did not agree that covid-19 caused their blood pressure to increase. This partly corroborated the qualitative findings. One of the FGD participants, for example, said, “It was at the beginning of the Covid-19 period that my blood pressure increased but thereafter, I got used to it. After all, there is nothing in this world, why would I think myself to death?” (FGD/07/2023/Women’s Union Executive/Civil Servant). Another participant said: “Covid-19 did not really affect my blood pressure but there was series of thinking, no, it did not affect my blood pressure at all” (FGD/05/09/2023/opinion moulder/teacher).

The second variable is on Covid-19 and sugar level of the respondents, the data shows that 277(32%) of the respondents strongly disagreed, 208(24%) disagreed, while 216(25%) agreed and 121(14%) strongly agreed while 43(5%) were undecided. This shows that a majority of the respondents 485(57%) disagreed that Covid-19 affected their sugar levels negatively. This corroborated the qualitative data as More of the FGD participants’ narratives showed that they got used to the situation on time and had to make some adjustment that helped them cope with the Covid-19 pandemic. An FGD participant, for example, said: “My sugar level was not affected” (FGD/07/2023/Youth Executive/Student) and another said: “How can my sugar level increase when I was trekking like a mad because of increase in transport fare woman looking for how to feed my children (FGD/05/2023/Women’s Union Executive/Food Vendor)

The third variable is on Covid-19 and body weight causing health issues, the findings shows that 294(34%) strongly disagreed, 251(29%) strongly agreed, 190(22%) disagreed while 78(9%) agreed and 52(6%) remained undecided. This means that a majority of the respondents (56%) did not agree that that they added weight during Covid-19 period. This could be as result of the fact that the economic situation and lockdown denied people the opportunity of eating the things they desire. Besides, covid-19 did not stop a lot of people from engaging in personal exercises especially in the rural areas. This corroborated with FGD data, for example, a participant said:

How can one who hardly see food to eat add weight? I did not add any weight rather I lost some weight because I was not eating the right diets and because of too much thinking I have to loose some pounds of weight” (FGD/07/09/2023/Opinion moulder/teacher).

Another said: “we became thin and lost a lot of weight because my parents’ salaries were not coming because of Covid-19, and even, after Covid-19 it took time before government could pay them” (FGD/09/09/2023/youth executive/student). This also corroborated the narrative of another participant who said:

I went through a lot of worries during Covid-19 that made me lost some weight, business was not moving because of lockdown and my wife was still asking for money for food, my responsibility as a man did not reduce even though money was not coming in as usual (FGD/09/09/2023/Men’s Association Executive/Trader).

One of the participants also said: “only hunger alone during covid-19 is enough to make one loose weight, so sir, let’s not talk about that” (FGD/05/09/2023/Youth Association Executive/Trader). Another youth in the third community said: “yes I lost some because I engaged in serious exercise because of idleness as schools were locked up because of Covid-19” (FGD/07/09/2023/youth executive/student). Another participant said: “do you expect someone that was dying of hunger, who hardly feed once a day to add weight? (FGD/09/09/2023/Opinion Mulder/Public Servant). Another also said: My daughter almost gave up because of hunger, and you are talking of increasing in weight. My brother, we lost weight big time” (FGD/09/09/2023/Women Association member/trader). Another said: “hmm, I don’t know ooo, but who did not loose weight? There was no money, people were not eating well” (FGD/07/09/2023/Opinion Moulder/teacher/religious leader). Another female participant was in-between the line. The participant said: “For me, Covid-19 resulted in weight fluctuations because at some point, I was fat due to excess rest and staying in the house, and at another point, I was slim because of reduced feeding. Additionally, the emotional trauma of the pandemic may have influenced my relationship with food (FGD/07/09/2023/women union executive/Trader). Another participant also said: “I lost weight ooo because of the constant stress of trekking because there was no means of transportation, and even if there was, I was trying to save money at the time” (FGD/05/09/2023/Women Association leader/Trader). Two participants, however, were indeerent instead of taking either a positive or negative directio, the participants respectively said: “who was even interested in weighing himself that time, we were just trying to survive and was praying for the pandemic to stop” (FGD/07/09/2023/Men’s Association Executive/Trader); and “nobody wanted to whether he was fat or thin, the only thing on our head was to be alive and see the end of Covid-19 instead of the pandemic seeing our end” (FGD/05/09/2023/Men’s Association Executive/Trader)

The last variable is on how physically the respondents felt before Covid-19, the data shows that 363(42%) of the respondents strongly agreed, 268(31%) agreed while 113(13%) disagreed, 52(6%) strongly agreed while 69(8%) were undecided. This shows that a majority of the respondents 631(73%) agreed that they felt better physically before the onset of covid-19 than they felt after covid-19. This could be as a result of people not being able to go out to do or buy the things they are used to or need. There is no doubt that the lockdown itself and social distancing as measures of curtailing Covid-19 are capable of making one not to feel well. This corroborated with the qualitative findings. One of the FGD participants, for example, narrated:

My sister, I will not lie to you, I was emotionally deranged all through that period. I did not know how my body was doing me all through. I did not know what to think and what to leave. I have five children plus an aged mother, my husband was not going to work and I was not going to my shop. Hunger wanted to finish us, we almost begged if not for God’s mercy. Oh! I did not get myself, Covid-19 is evil (FGD/07/09/2023/women Association member/trader)

Another participant corroborated this, in his narrative said, “we cannot even compare the two periods, after covid-19 a lot of things went wrong, I am still trying to come out of the shock of covid-19. Nobody is feeling well at all, don’t go there my brother” (FGD/07/09/2023/men Association member/plumber). A

participant also said: “people are yet to be healed from the trauma of covid-19, it may really take some time” (FGD/05/09/2023/Men association/trader). Another said:

If I tell you my own story, I mean what I went through during covid-19, you will shed tears. I ate the school fees my father gave me because of covid-19. I was supposed to pay the fees before we were forcefully vocationed but I thought the holidays will not be long, I did not know it will take that long and I did not know when I used all the money. The worse thing is that up till now, I have not been able to pay and lied to my father that I paid the school fees, I am still trying to see how to sort myself out, I am not emotionally stable as you see me here. Covid-19 dealt with me (FGD/07/09/2023/youth executive/student).

One of the participants also added:

I would say I felt better Covid-19 physically than during and after Covid-19. Hmmm, before Covid-19, everything was normal, things were moving the way they ought to but covid-19 came with a lot of lockdowns, things weren’t moving, everybody was indoor, survival during that period, hmm, it was just God (FGD/07/09/2023/Opinion Moulder/teacher).

Another said: “I think I felt physically better before Covid-19 because of my regular routine but after the pandemic, everything changed even our school system and this has not given us students enough time for ourselves” (FGD/05/09/2023/Youth executive/Students). Furthermore, a participant said: “Before Covid-19, I felt physically better, it took me time to get myself back, due to the stress that came with pandemic” (FGD/05/09/2023/Women Association leader/Trader). “ya, before the pandemic, I was Physically better, I noticed that, but that wasn’t the case after covid-19” (FGD/09/09/2023/ Men’s Union/public servant/veterinary Doctor).

Research Question Four: How can the living conditions (livelihoods) of Residents of South-East Nigeria be improved? Questionnaire item 29 (see appendix 11) was used to answer this research question. The data are presented in fig. 4:

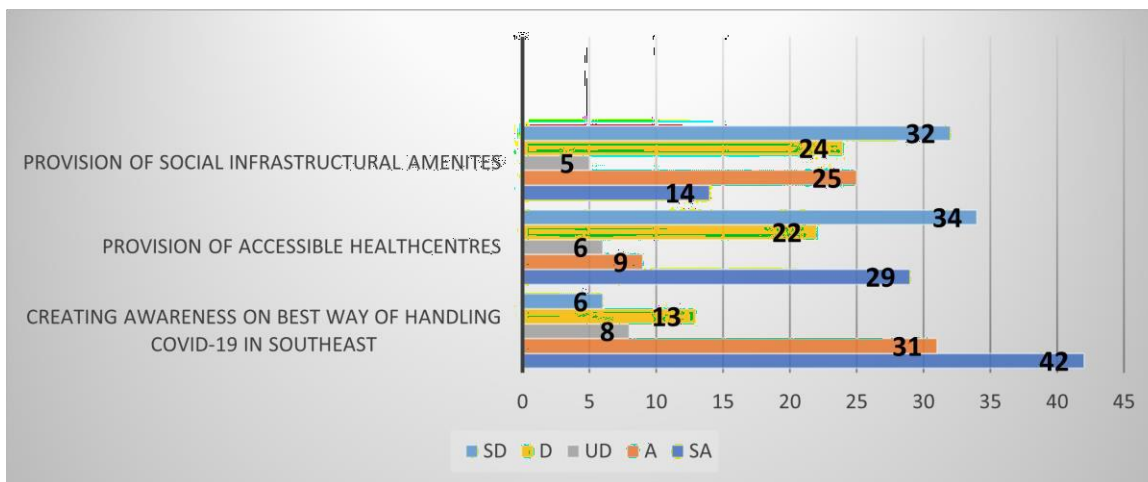


Fig.4: How Livelihoods of Residents of South-East Nigeria can be Improved

Fig. 4 showed how the livelihood of the people with deteriorated of Southeast can be improved. The first variable is on provision of infrastructural amenities, the data shows that more of the respondents 277(32%) strongly disagreed, 216(25%) agreed, 208(24%) disagreed, 121(14%) strongly agreed while 43(5%) were undecided. This shows that a majority 485(56%) of the respondents did not agree that provision of infrastructural amenities can improve the livelihoods of the people. This could be as a result of the destructive attitude of the residents of south-East residents towards infrastructural facilities. It could be that the right awareness on the importance of these infrastructures to the enhancement of their livelihoods is

lacking in the area. However, the FGD data did not corroborate this finding, showing a divided view about this. More of the FGD participants reported that provision of infrastructures can improve the livelihoods of the people of South-East Nigeria. The reason for this divided opinion could be because a lot of the respondents are traders and may not be educated enough to know the importance of infrastructural provision to their livelihoods.

One of the FGD participants narrated as thus:

The provision of infrastructure certainly has a positive impact on livelihoods of residents of South-East Nigeria. Access to well developed infrastructure such as roads, bridges, public transportation and utilities plays a crucial role in improving the quality of life of residents. It enhances connectivity, promotes economic growth, facilitates trade and commerce and provides better access to essential services like healthcare and education. It can also attract investments, create job opportunities and contribute to overall development in the region **(FGD/07/09/2023/Youth Executive/Student)**

Another also said: “Yes, the deplorable health facilities in Southeast amounts to insufficient and ineffective health services” **(FGD/07/09/2023/Opinion Moulder/Religious Leader/Public Servant)**

The second variable is on provision of accessible health centers, the data found that 294(34%) strongly disagreed, 251(29%) strongly agreed while 190(22%) disagreed and 78(9%) agreed, while 52(6%) were undecided. This shows that a majority of the respondents 484(56%) did not agree that provision of accessible health centers could improve their livelihoods. This underscores the importance of education and awareness creation on sensitive issues in South-East Nigeria. However, The qualitative data did not corroborate the quantitative data as some of the IDI participants believe that health is wealth. One of the IDI participants, for example, said:

It is only those that are healthy that can go about their businesses. If you are sick, you cannot work and you cannot make money and your children cannot go to school. Health centres are truly important especially the ones that we can trek to not the ones we will climb bike to go to **(FGD/07/09/2023/women union executive/business woman)**

Another also said: “Ahh! This one is not contestable, health is first, then, other things follow, infrastructure and sensitization are also good but health first before other things can join” **(FGD/09/09/2023/women union executive/Teacher)**. Another participant from another community said: “My son health centers are important to us but the government should bring it close to us because health is wealth **(FGD/05/09/2023/Women Union Executive/Trader)**. To further expound the importance of accessible healthcare centres, a participant said:

...accessible healthcare helps in early detection and management of diseases, reducing the burden of illness on individuals and their families. It empowers people to take care of their health, and when people are healthier, they can thrive in their businesses **(FGD/07/09/2023/Youth Executive/Student)**

The last variable is on creating awareness on best way of handling Covid-19 in Southeast, the data shows that more of the respondents 363(42%) strongly agreed, 268(31%) agreed, 113(13%) disagreed, 52(6%) disagreed while 69(8%) were undecided. This shows that a majority of the respondents 631(73%) agreed that awareness creation is the best way of handling Covid-19 in Southeast. This implies that the best means of improving the livelihood of the Southeast is creating awareness on Covid-19 related issues. This corroborated the qualitative data as almost all the narratives of the FGD participants in the study area went in this direction. One of the FGD participants, for example, said:

Yes, people should be sensitized on not just the dangers of covid-19 but the opportunities it has created.

Some way of life which covid-19 brought has come to stay. For example, Covid-19 has established the digital era and numerous online businesses. Anybody that still sticks to the old ways of doing things may lose out, and the person’s livelihood will continue to be in bad shape. People should be made to know that covid-19 pandemic has ushered the digital era and anybody that takes advantage of it will be free from poverty for life. Let me just tell you the truth, creating awareness of the new normal that covid-19 has brought, will take people out of poverty more than building roads and hospitals. I am not saying that those ones are not good but I believe in teaching people how to catch fish instead of just giving them fish **(FGD/05/09/2023/Opinion Moulder/Teacher)**.

Some FGD participants to this effect also narrated as thus:

The best awareness to be created this time should be on the importance of education in this post-covid-19 era. Covid-19 caused a lot of harm to people’s jobs, businesses, health, families and caused a lot of changes. These changes require education for one to properly adapt. It is only someone that is educated that can take business opportunities in this digital era. It is time to encourage our traders and farmers in South-East Nigeria through awareness to go to school first before becoming traders so that they function effectively in this post-covid digital era **(FGD/05/09/2023/Men’s Union Executive/Civil Servant)**

Creating awareness about how to best handle the effects of Covid-19 in South-East Nigeria can definitely improve the livelihoods of the residents of the region. It is popularly said, if you are not informed, you are deformed. To me, raising awareness about the importance of mental health and well-being during this challenging time can help the individual cope with emotional impacts of the pandemic. Again, spreading knowledge about the preventive measures of Covid-19 is key at a time like this. Awareness campaigns can also provide information about available health resources, testing centres and vaccination efforts, ensuring that individuals can access the necessary support and care **(FGD/07/09/2023/Youth Executive/Student)**

One of the participants also said: “Yes, the people of the Southeast can do better with good knowledge on coping strategies” **(FGD/07/09/2023/Opinion Moulder/Religious Leader/Public Servant)**

Hypotheses:

The formulated hypotheses were tested as thus:

There is a significant difference between COVID-19 lockdown and increase in fertility amongst couples.

Table 5: Difference between COVID-19 lockdown and increase in fertility amongst couples

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	3.417	2	.854	1.253	.012
Within Groups	552.231		.613		
Total	555.648	862			

The ANOVA statistical tool was run to determine if COVID-19 lockdown led to an increase in fertility amongst couples. The result of the test indicates that there was no statistically significant difference between the groups as determined by one-way ANOVA ($F(2, 862) = 1.253, p = .012$). This goes to suggest that there is a significant increase in fertility due to COVID-19 lockdown.

There is a significant difference between COVID-19 epidemic and access to healthcare facility

Table 6: Difference between COVID-19 and access to healthcare facilities

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	2.317	3	.754	1.294	.001
Within Groups	442.231	859	.613		
Total	444.548	862			

The ANOVA statistical tool was run to determine if there is a significant relationship between COVID-19 epidemic and access to healthcare facilities. The result of the test indicates that there was no statistically significant difference between the groups as determined by one-way ANOVA ($F(3, 862) = .1.294, p = .001$). This goes to suggest that there is a significant variation between outbreak of COVID-19 and lack of access to healthcare facilities.

DISCUSSION OF FINDINGS

Socio-Demographic Characteristics of respondents

The study generally interrogated the effects of covid-19 pandemic on livelihoods, demographics and health of residents in South-East Nigeria. At first, the result of the socio-demographic characteristics showed that a majority of the respondents 658 (76.1%) were male, 347 (40.1%) were between the age 30 – 35 years of age, These were corroborated by FGD data as the 12 FGDs showed more males 65 (54.2%) than females 55(45.8%); and revealed that a majority 75 (62.5%) of the FGD participants are within the wider age bracket of 30-41 years. This age data as already shown is supported by the journal publication of Xu, Wang, Liu, Wu, Li, Miao, Zhang, Yang, Sun Zhu, Fan, Chen, Hu Liu and Wang (2020) who had a majority 2854 (56.4%) of their respondents within the wider age bracket of 30-49 years, in their. study of “covid-19 in Wuhan: Socio-demographic characteristics and hospital support measures associated with immediate psychological impact on healthcare workers”, using a total of 5062 respondents.

The data on marital status showed a majority of the respondents 310 (35.8%) were never married. However, the FGD data showed that there were more married participants 60 (50.0%) than unmarried 309 (25%). This did not corroborate the quantitative data but somehow enriched the work by providing balance in the responses and made it not to be one-sided. It was also observed that a majority of the respondents 476 (55.0%) reside in urban area. this like others corroborated the quantitative socio-demographic data as it revealed more urban dweller 80 (66.7%) than rural dwellers 40 (33.3%). It was also found that more of the respondents 212 (24.5%) were business men/women and traders and 213 (24.6%) earn between N25,000 to N49,999. This also corroborated the FGD data on occupation. The FGD data on occupation showed that, a majority of the participants 65 (54.2%) are traders and businessmen/women as it was on the quantitative side. Again, a majority of the respondents 321 (37.1%) either had a university or polytechnic education. FGD data also corroborated this because FGD socio-demographic data showed more educated participants like its quantitative counterpart as 70 (58.3%) have B.Sc/HND. This data on education is supported by the journal publication of Chilunga, Coyer, Collard, Leenstra, Galekkamp, Agyemang, prins and Stonks (2022) who had adequate healthy literature participants (95.7%) with most participants educated to university level (45.4%).

Effects of covid-19 pandemic on the livelihoods of residents

The first specific issue it investigated the effect of covid-19 pandemic on the livelihoods of residents of South-East Nigeria, and it was found that the pandemic affected the livelihoods of half of the southeastern Nigeria’s residents, and a majority of them could easily pay their children’s fees before covid-19 than after

(64%); fed better before COVID-19 than after (56%) and had a better income before COVID-19 than after ((56%). This shows that all the indices of the residents' living conditions were negatively affected with multiplier effects of increased school dropout rate, malnutrition and low income with its concomitant further deterioration of the residents' livelihoods. The qualitative data also corroborated these findings as more of the FGD participants' narratives showed that Covid-19 pandemic came with inflation that resulted in the skyrocketing of the prices of commodities in the market without the proportionate increase in their incomes, and making them unable feed well and pay their children's school fees.. This finding agrees with the study of Wang et al (2023) what found that the lockdowns and containment measures disrupted economic activities, particularly small businesses, informal sector enterprises, and daily wage laborers; and that disruptions in some other western societies have been connected to income losses and economic hardship for many households. This is supported by the journal publication of Onyima and Udeh (2020) who found that the major impacts of adhering to basic covid-19 guidelines by informal workers in South-East Nigeria are little or no routine daily, insufficient daily supply to feed families and dependents

Effects of covid-19 pandemic on the demographic conditions of residents

The second specific issue the study interrogated was the effects of covid-19 pandemic on the demographic conditions of residents of residents of Southeastern Nigeria. It was found that a majority of the respondents were bereaved because of the poverty orchestrated by covid-19 (56%); had their movement curtailed (81%); neglected the use of contraceptive (74%) and either gave additional birth or had their family members or relatives give additional birth (75%). Besides, there is a significant increase in fertility due to COVID-19 lockdown at $p = .012$. The possible explanation to this could be that incessant lockdowns as covid-19 containment measure created enough room for couple to stay together more than ever resulting in giving additional birth. Again, the same lockdown affected access to contraceptives such as condoms, injectables and pills, thereby negatively affecting the use of contraceptives since patent medicine stores were locked up because of lockdown. Another explanation, especially on the side of bereavement, could be that the hardship orchestrated by covid-19 pandemic made communities in South-East Nigeria to record high mortality rate. It could be recounted that during the period of covid-19, movements were restricted, markets and patent medicine stores were locked up, salaries were withheld and businesses suffered, and there is no way all these would unconnected with the high level of bereavement suffered by the residents of Southeastern Nigeria. Moreover, covid-19 orchestrated hardship alone is capable of affecting migration let alone when lockdowns were added. These findings were also corroborated by the qualitative data. This is partly in consonant with the study by Liu *et al* (2020) who found that the pandemic affected vulnerable populations differently, including the elderly, children, and those with pre-existing health conditions. it also agrees with Xiong, et al (2020) who stated that the pandemic profoundly impacted on various aspects of daily life.

Effects of Covid-19 pandemic on the health conditions of residents

The third specific issue this study interrogated was the effects of covid-19 pandemic on the health conditions of residents. The findings showed mixed responses, while a majority of the respondents disagreed that Covid-19 pandemic made their Blood Pressure (BP) to rise (81%), increased their sugar level (57%); caused them to add weight (56%) while a significant majority agreed that they felt better before Covid-19 pandemic than after. Besides, there is a significant relationship between outbreak of COVID-19 and lack of access to healthcare facilities at $p = .001$. Education could be the reason for this discrepancy given that southeastern Nigeria's residents are more of traders. The qualitative data, however, settled the issue as more of the FGD participants narratives favoured the fact that residents felt physically and psychologically better off before Covid-19 than after the pandemic. One obvious truth is that one tends to have a more stable BP when one is physically and psychologically better off than when one is not better off. On this premise, it might not be wrong to state that Covid-19 pandemic worsened the health condition of South-East Nigeria's residents as strongly supported qualitative data, hypothesis Two and partly by the

quantitative data. This agrees with the work of Xiong, et al (2020) who stated that the pandemic disrupted societies worldwide, profoundly impacting various aspects of daily life, and challenging the resilience of communities and healthcare systems

How the living conditions (livelihoods) of residents of South-East Nigeria can be improved

This last specific issue addressed in this study is how the living condition (livelihoods) of residents of South-East Nigeria can be improved. The findings also showed mixed responses. It was specifically found that a majority of the respondents did not agree that provision of infrastructural amenities (56%) and provision of accessible health centres (56%) could improve the livelihoods of the people rather a significant majority agreed that awareness creation is the best way of handling Covid-19 effects in Southeast. This discrepancy underscores the importance of education and awareness creation on sensitive issues in South-East Nigeria. The qualitative data, however, resolves the discrepancy as more of the FGD participants believe that even though awareness creation on the new opportunities that covid-19 has brought could fix the effects of covid-19 on the residents' livelihoods but that cannot be achieved with an empty stomach and when one is sick. It is, therefore, not wrong to state that a combination of provision of infrastructural facilities, accessible health centers and awareness creation on the new opportunities Covid-19 has opened, are critical to improving the living conditions of residents of South-East Nigeria. This finding agrees with the report of WHO (2022) that the virus also underscored the importance of robust healthcare infrastructure

CONCLUSION

The study investigated the effects of Covid-19 pandemic on livelihoods, demographics and health of residents of South-East Nigeria. The current state of hunger, school dropout rate, insecurity, health depletion and death in south-east Nigeria prompted this study with the aim of restoring the glory of the region. The study has implicated covid-19-orchestrated poverty which resulted from excessive lockdowns, social distancing, face masking and their resultant deterioration of livelihoods, neglecting the use of contraceptives, increase in number of births, restriction of movements and deterioration of the health of Southeastern Nigeria's residents, as issues in the poor living conditions of the residents of South-east Nigeria. It specifically found that Covid-19 affected the livelihoods of residents of South-East Nigeria negatively especially their ability to pay their children's school fees, feeding income and means of survival; affected the demographics of residents badly especially in the areas of migration, bereavements, contraceptive use and fertility negatively; and affected the health of residents negatively as the residents felt better physically before the onset of Covid-19 than during and after the pandemic. The study further revealed that the best way of improving the Covid-19 orchestrated deteriorated livelihoods is by creating awareness on best to handle the Covid-19 effects in South-East Nigeria. It is, therefore, concluded the present state of deteriorated livelihoods, poor fertility behaviour, restriction of movements, poor health state and ever-increasing mortality rates in South-East Nigeria orchestrated by Covid-19 may remain unabated if provision of infrastructure and accessible healthcare centres are not combined with awareness creation on how to harness the new opportunities that covid-19 has provided against all odds.

RECOMMENDATIONS

Given the findings of this study, the following recommendations are made:

1. Free education from primary to tertiary levels should be introduced in South-East Nigeria to give the residents opportunities to curtail the effects of the damages of COVID-19 on the education of residents and to reduce the expenses of residents and give them the opportunity to rebuild their COVID-19 orchestrated deteriorated livelihoods
2. The federal government should not only intensify the distribution of palliatives to Nigerians but

should ensure that the distribution is thoroughly supervised especially in South-East Nigeria because of the intensity of the bereavement orchestrated by COVID-19 in the region which no doubt included breadwinners of residents]

3. The government should make provision for compulsory free HIV/AIDS and STD testing centres across the communities of South-East Nigeria to expose and thoroughly handle the further effects of contraceptive neglect caused by COVID-19 pandemic lockdowns
4. The state government and NGOs should team up with Federal Government to sustain the compulsory feeding of primary school pupils across South-East Nigeria to reduce the burden on parents in feeding the additional mouths orchestrated by COVID-19 lockdowns and work-from-homes in their families
5. More equipped healthcare facilities such as clinics and hospitals should be located in the rural communities of South-East Nigeria to enhance access to healthcare services given the damages of COVID-19 pandemic containment measures on the health of residents
6. Awareness creation on both the effects of COVID-19 and the opportunities associated with the resultant new normals should be intensified in Southeast Nigeria to close the gap between the damages of COVID-19 and the available solutions to enhance the livelihoods of residents.

REFERENCES

1. Aiyewumi, O & Okeke, M.I. (2020). The myth that Nigerians are immune to SARS-Cov-2 and Covid-19 is a hoax are putting lives at risk. *Journal of Global Health* 10(2):1-7
2. Chilunga, F.P., Coyer, L., Collard, D., Leenstra, T., Galenkamp, H., Agyemang, C., Prins, M., & Stronks, K. (2022). Covid-19 impacts across multiple life domains of vulnerable socio-demographic groups including migrants: a descriptive cross-sectional study. Available at <https://doi.org/10.3389/ijph.2022.1604665> Accessed: 29 December, 2023
3. Emery, T. & Koops, J.C. (2022). The impact of covid-19 on fertility behaviour and intentions in a middle income country. *PLoS ONE* 17(1):e0261509 doi:10.1371/journal.pone.0261509
4. Haileamlak, A. (2021). The impact of Covid-19 on health and health systems. *Ethiopian Journal of Health Science* 31(6):1073-1074
5. Joseph, W. (2022). Impact of Covid-19 on people's livelihoods. *African Journal of Infectious Diseases Research* 9(2):1-1
6. Liu, E., Dean, C. A., & Elder, K. T. (2023). Editorial: The impact of COVID-19 on vulnerable populations. *Frontiers in public health*, 11, 1267723. <https://doi.org/10.3389/fpubh.2023.1267723> Accessed: 21 September, 2023
7. Nigeria Centre for Disease Control and Prevention. (2020). First case of coronavirus disease confirmed in Nigeria. Retrieved from <https://ncdc.gov.ng/news/227/first-case-of-corona-virus-disease-confirmed-in-nigeria> Accessed: 26 December, 2023
8. Katikiredi, S.V., Hainey, K.J & Beale, S. (2021). The impact of covid-19 on different population sub-groups: ethnic, gender and age-related disadvantage. Available at <https://pubmed.ncbi.nlm.nih.gov/34185037/> Accessed: 26 December, 2023
9. Onyima, B.N & Udeh, C.U (2020). Impact of Covid-19 lockdown: expressions of inequality and survival strategies among informal workers in selected southeast states Nigeria, *Socialscientia: Journal of Social Sciences and Humanities* 5(4): 55-68
10. Panovska-Griffiths, J. (2020). Can mathematical modelling solve the current Covid-19 crisis? *BMC Public Health*, 20(1). <https://doi.org/10.1186/s12889-020-08671-z>
11. Sanderson, S.K. (1995). *Social transformation*. New York: Blackie Press, 110
12. Xiong, D., Zhang, L., Watson, G. L., Sundin, P., Bufford, T., Zoller, J. A., Ramirez, C. M. (2020). Pseudo-likelihood based logistic regression for estimating COVID-19 infection and case fatality rates by gender, race, and age in California. *Epidemics*, 33, 100418. <https://doi.org/10.1016/j.epidem.2020.100418> Accessed: 21 September, 2023
13. Wang, C., He, X., Song, X., Chen, S., & Luo, D. (2022). Dynamic livelihood impacts of COVID-19

on different rural households in mountainous areas of China. *PLOS ONE*, 17(9), e0273816. <https://doi.org/10.1371/journal.pone.0273816> Accessed: 21 September, 2023

14. Weeks, J.R. (2008). *Population: an introduction to concepts and Issues tenth edition*, Belmont: Wadsworth, Cengage Learning
15. World Health Organization: WHO. (2022, July 20). COVID-19 has caused major disruptions and backlogs in health care, new WHO study finds. *World Health Organisation*. Retrieved from <https://www.who.int> Accessed: 21 September, 2023
16. Zhu, Z., Xu, S., Wang, H., Liu, Z., Wu, J., Li, G., Miao, J., Zhang, C., Yang, Y., Sun, W., Zhu, S., Fan, Y., Chen, Y., Hu, J., Liu, J., & Wang, W. (2020). Covid-19 in Wuhan: Sociodemographic characteristics and hospital support measures associated with the immediate psychological impact on healthcare workers, *eClinicalMedicine* 24: 100443

APPENDIX 1: LETTER OF INTRODUCTION TO RESPONDENTS

Department of Sociology

Faculty of Social Sciences,

Abia State University,

Uturu,

Nigeria.

Dear Respondent,

We are lecturers in the aforementioned Department and institution. Currently, we are carrying out a study on “interrogating the effects of covid-19 pandemic on livelihoods, demographics and health of residents of South-East Nigeria”

In view of this, you have been chosen as one of the respondents in this research work and it will be highly appreciated if you would supply answers, to the best of your knowledge and ability, to the questions attached. This study is for academic purpose only. Therefore, you are assured that all the pieces of information you are giving will be treated with utmost confidentiality.

Thank you for your co-operation.

Yours sincerely,

Ikonne, Ogadinma & Amaugo, Ijeoma

APPENDIX II: QUESTIONNAIRE SCHEDULE

Instruction: Please show your responses by ticking (y) in the box against the answer you have chosen and fill the spaces where necessary

SECTION A: SOCIO-DEMOGRAPHIC CHARACTERISTICS OF THE RESPONDENTS

Questionnaire Identification Number: _____

Village/Community _____

Local Government Area _____

Senatorial District/State _____

1	What is your sex?	(1) Male	(76.1%)
		(2) Female	(23.9%)
2	What is your age at the last birthday?	18-23yrs	(14.6%)
		24-29yrs	(14.1%)
		30-35yrs	(40.1%)
		36-41yrs	(10.3%)
		42-47yrs	(11.9%)
		48 & above	(9.0%)
3	What is your marital status?	(1) Never Married	(35.8%)
		(2) Ever Married	(33.4%)
		(3) Separated	(5.9%)
		(4) Divorced	(8.8%)
		(5) Widowed	(16.1%)
4	Where do you reside?	Rural	(44.9%)
		Urban	(55.0%)
5	What is your highest formal educational qualification?	(1) No Formal Education	(7.4%)
		(2) FSLC	(22.9%)
		(3) WASC/SSCE/GCE	(26.7%)
		(4) NCE/OND	(0.0%)
		(5) BSc./HND	(37.1%)
		(6) MSc./PhD	(5.9%)

6	What is your occupation?	(1)	Unemployed	(21.8%)
		(2)	Student	(9.8%)
		(3)	Self employed, specify.....	(15.8%)
		(4)	Public servant	(24.4%)
		(5)	Business/trading	(24.5%)
		(6)	Apprentice (in what?), specify.....	(4.2%)
		(7)	Other, specify—————	(0.0%)
7	What is your religious affiliation?	(1)	Christian	(89.5%)
		(2)	Muslim	(4.0%)
		(3)	Judaism	(2%)
		(4)	African Traditional Religion	(4.5%)
		(5)	Other, specify—————	(0.0%)
8	What is your monthly income?	(1)	Below N25,000	(18.8%)
		(2)	N25,000-N49,999	(24.6%)
		(3)	N50,000-N74,999	(15.6%)
		(4)	N75,000-N99,999	(10.5%)
		(5)	N100,000 and Above	(30.4%)

SECTION B: EFFECTS OF COVID-19 ON THE LIVELIHOODS OF PERSONS IN SOUTH-EAST NIGERIA

		SA	A	UD	D	SD
9	Covid-19 effected my means of livelihood badly	24%	26%	15%	30%	5%
10	My living conditions were better before covid-19 pandemic than now	32%	25%	3%	20%	20%
11	My income was better off before covid-19 pandemic than now	30%	26%	5%	24%	15%
12	I could feed better before the period of covid-19 than now	32%	24%	5%	25%	14%
13	We used to have more electricity supply before covid-19 than now	35%	27%	5%	23%	10%
14	I could easily pay my children’s school fees before covid-19 than now	35%	29%	10%	14%	12%
15	Covid-19 reduced employment opportunities and rendered many of us jobless or partially jobless.	30%	30%	4%	20%	16%
16	I have a deteriorated livelihood from covid-19 periods till date	24%	26%	10%	16%	15%

17	The state of poverty I am in today is as a result of covid-19 pandemic	50%	26%	4%	8%	12%
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SECTION C: EFFECTS OF COVID-19 ON THE DEMOGRAPHIC CONDITIONS OF PERSONS IN SOUTH-EAST NIGERIA

		SA	A	UD	D	SD
18	Covid-19 made us, our children or relatives have additional child or children	49%	26%	8%	11%	6%
19	Covid-19 affected my use of contraceptive negatively	52%	22%	6%	11%	9%
20	Covid-19 made me bereaved in one way or the other	32%	24%	5%	25%	14%
21	I have been afraid of traveling frequently since covid-19 till dated	39%	42%	3%	7%	9%
22	A lot of my friends, relatives, children or even myself have left south-east Nigeria to other zones or countries because of poverty inflicted by covid-19 on the zoe	39%	42%	2%	8%	9%

SECTION D: EFFECT OF COVID-19 ON THE HEALTH CONDITIONS OF PERSONS IN SOUTH-EAST NIGERIA

		SA	A	UD	D	SD
23	I used to feel stronger health wise before covid-19 than now	42%	31%	8%	13%	6%
24	Covid-19 increased my body weight and I'm still battling with it till date	29%	9%	6%	22%	34%
25	My blood pressure has been a serious challenge to me from covid-19 period till date	9%	7%	3%	42%	39%
26	Covid-19 affected my sugar level negatively and it has been giving me concern till date	14%	25%	5%	24%	32%
27	Covid-19 reduced my dietary intake	40%	35%	2%	13%	10%
28	Covid-19 injured my immune system badly	20%	14%	45%	9%	12%

SECTION E: HOW THE LIVING CONDITION (LIVELIHOODS) OF PERSONS IN SOUTH-EAST NIGERIA CAN BE IMPROVED

		SA	A	UD	D	SD
29	Do you strongly agree, agree, undecided disagree, or strongly disagree to the following statements on livelihoods of persons in south-east Nigeria could improve					
	<ul style="list-style-type: none"> Provision of basic social amenities in social amenities/infrastructures such as good road network, good schools, electricity, pipe borne water, and job opportunities can improve living conditions of people 	14%	25%	5%	24%	32%
	Placing sanctions on out-migrants/immigrants can improve livelihoods of persons in southeast Nigeria	14%	23%	7%	20%	36%

<ul style="list-style-type: none"> ● Awareness creation on the how to handle the demographic effects of covid-19 in southeast Nigeria can improve people’s living conditions in the area 	42%	31%	8%	6%	13%
<ul style="list-style-type: none"> ● Provision of more health facilities and making it more accessible to persons of all statuses can improve the people’s living conditions in southeast Nigeria 	29%	9%	6%	22%	34%