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Perception of COVID-19 Pandemic Among Residents of a High Density – Low Income Area in Enugu City, Nigeria

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Abstract. Coronavirus (COVID-19) infection is increasing steadily in Nigeria. The aim of this study is to assess the perception of people living in low income and densely populated area about COVID-19. This study was carried out in one of the most popular low income area (Abakpa-Nike) in a major city in South East, Nigeria (Enugu). Four hundred questionnaires were administered to heads of the household in this community. A return rate of 77.5% was achieved. Descriptive (frequency, percentages, weighted average and median) and inferential statistics were used for the study. Our tests show that females are more likely to use facemask more frequently than males ($p=0.000$). However, there is no association between gender and frequent use of hand sanitizers ($p=0.06$). Also, no association exists between gender and regular observation of social distancing ($p=0.272$). There was also an association between educational status and perception that Nigeria's tropical climate "kills" COVID-19 virus ($p=0.021$). No association exist between educational status and the perception that Nigerians immune system is "stronger" than COVID-19 virus ($p=0.147$). Therefore, National Center for Diseases and Control, Presidential Task Force on COVID-19 and relevant state agencies should put into consideration educational and economic status of the people in their communication output.

Keywords. Perception, COVID-19, High-Density, Low-income, Residents, Preventive Measures, Nigeria

1. Introduction

The novel COVID-19 emerged in December 2019 at Wuhan, China. By April, almost all the countries in the world have recorded confirmed positive cases. The pandemic has thrown the world into confusion. On February 28, 2020, first confirmed case of coronavirus disease was reported in Nigeria. By May 1st 2020, the total confirmed cases and deaths has risen to 1,932 and 58 deaths, respectively (NCDC 2020a). Confirmed cases are increasing daily, across the globe. In recognition of this, the World Health Organization declared COVID-19 a Public health emergency of international concern (PHEIC). COVID-19 has disrupted socioeconomic

and political activities across the globe. It is estimated that developing countries will lose more than \$220 billion in income (UNDP 2020).

In Nigeria, Presidential Taskforce (PTF) on COVID-19 and National Centre for Disease Control (NCDC), are tasked with combatting the pandemic. The PTF, an ad-hoc committee was created to liaise and direct all efforts geared towards combatting the pandemic. The study area, Abakpa-Nike is located in Enugu East Local Government Area of Enugu State, south-eastern Nigeria. It lies within latitudes 6°30'4"N and 6°31'4"N and longitudes 7°30'21"E and 7°31'23"E. It has a population density of about 700 persons per square kilometer, while the state-wide average is about 585 persons/sqkm. Tenement and flat apartments houses constitute the major buildings in the area. The area has an average of seventeen households per building, which is higher than 8.3 and 6.6 households/building obtained in medium and low density areas, respectively, of Enugu city (Ofoemie 2015). Infectious and non-infectious disease spreads widely in overcrowded and high density areas (Hamidi et al. 2020). The area is therefore more prone to spread of the coronavirus. Semi-lockdown measure of the state government saw the partial closure of the markets, except for trading of essential commodities – foodstuffs, pharmaceuticals, etc. Partial cessation of economic activities implies that daily provisions needed for sustenance such as food, water, etc are seriously affected. It is more critical considering that 87 million Nigerians earn less than US\$2 per day. Also, most of the workforce (83.2%) work in the informal sector (Akanni and Gabriel 2020). Consequently, the argument among the people that “hunger pandemic” is more serious than COVID-19 pandemic is a critical issue to reckon with, in effort to flatten the pandemic curve (Akinwotu 2020). The glaring choice between starvation and risk of infection implies that continuous lockdown is not an acceptable option. Therefore, the partial opening of the national (and Enugu State) economy on 5th May, 2020, despite opposing arguments. On 4th May 2020, Enugu State has a cumulative of eight confirmed cases. Ease of lockdown measures – opening of markets and relaxation of ban on inter-state travel saw the total confirmed cases of Enugu State increasing from eight (4th May) to four hundred and thirty-one (9th July, 2020). On 8th July, 2020, the state recorded 13 new cases which is higher than total confirmed cases from March–May, 2020 (NCDC 2020b). This study therefore assessed the perception of residents of Abakpa-Nike, one of the most popular high-density and low-income area in a major city in Southeast Nigeria (Enugu) towards COVID-19 virus pandemic, NCDC, their information output, and observation of safety and preventive measures. The first section of the paper presents general introduction. In the second section, methodology adopted in the work is explained, while the third section presents and discusses study result. In the final section, conclusions and policy implications are discussed.

2. Methodology

A questionnaire was developed and tested for the purpose of this study. The questionnaire was administered to heads of household. The study population comprises the households in Abakpa-Nike. The 2006 Nigeria census data recorded the number of households in Abakpa-Nike as 65,425 (National Population Commission 2010). Annual growth rate of 2.9% (National Bureau of Statistics 2012) was assumed and the year 2020 population of Abakpa-Nike was projected at 97,614 households. From this population, a sample size of 400 was calculated with a margin error of 5%. A systematic sampling procedure was adopted for the ten streets that were randomly selected from the study area. Out of the 400 copies of questionnaire distributed, 310 copies were recovered, representing 77.5% response rate (Appendix 1).

The questionnaire was divided into four sections. The first section deal with the bio of the respondent. The second section is related to perceptions towards COVID-19 pandemic, importance of safety and preventive measures. The third section is concerned with perception towards NCDC and Presidential Task Force on COVID-19, while the fourth section enquires

personal observation of the safety and preventive measures. The second, third and fourth sections were structured in a 5-scale Likert scale. The second and third sections of the questionnaire follow the format - Strongly Agree, Agree, Undecided, Disagree and Strongly Disagree; while the fourth section uses Very often, Often, Undecided, Rarely and Very Rarely. The weights 5, 4, 3, 2 and 1 were assigned to the scales, respectively, for each item. Descriptive and inferential statistics were used to interpret/ analyze the data, which are ordinal. Inferential statistics (chi-square) was used to test for association between the dependent and independent variables. According to McHugh (2013), Chi-square test for independence, also known as called Pearson's chi-square test is used to test for association between 2 categorical variables. Statistical Package for Social Sciences (SPSS) version 23.0 was used for data and statistical analysis.

Cronbach Alpha was used to determine the reliability of the research instrument (questionnaire). A pilot study was conducted. One hundred copies of the questionnaire were randomly distributed to respondents, and ninety-two copies recovered. Problematic items that resulted to decrease in the alpha (α) below 0.7 were deleted, and 19 items retained. The retained 19 items yielded $\alpha=0.774$, which is greater than acceptable reliability, $\alpha=0.7$.

The research survey was carried out between 10th – 30th June, 2020. Safety and ethical considerations were taken into account. The purpose of the research, and confidentiality was explained to the participants. Consent was obtained from the participants before questionnaire were administered. Minimum of 2 meters were maintained between the researchers and the respondents. Facemasks were worn by the researchers, and alcohol-based hand sanitizers used to sanitize the hands before and after administration of the questionnaire to respondent. After inputting the questionnaire items into Excel spreadsheet, hands and computer surfaces were sanitized.

3. Results and Discussion

3.1 Demographic and Economics

77.1% (N=239) of the heads of household of the study area are males, while female accounts for 22.9% (N=71). This agrees with National Population Commission (2010) report that 72% and 28% of heads of household in the study area, are males and females, respectively.

Table 1: Age and Marital Status

Agers	Married	Single	Separated/Divorced	Widowed	TOTAL
18 – 25 years	5	30	0	0	35
26 – 30 years	17	33	1	0	51
31 – 40 years	31	38	9	2	80
41 – 50 years	71	7	9	4	91
51 – 60 years	27	1	3	6	37
61 years and Above	11	0	1	4	16
Total	162	109	23	16	310

Table 1 shows 52.2% of the heads of households are married, 35.2% are single, while 7.4% and 5.2% are separated/divorced and widowed, respectively. The age group 41–50 years has the higher number of household heads (29.3%), followed by 31–40 years (25.9%), 26–30 years (16.4%), 51–60 years (12.0%), 18–25 years (11.3%), and the least, 61 years and above (5.1%). 78% of those between 41–50 years are married, followed by 51–60 years (73%), ≥61 years (68.8%), 31–40 years (38.8%), 26 – 30 years (33.3%) and 18–25 years (14.2%). 85.8% of those between the age of 18–25 years are singles, while there is no person above 61 years that is

single. 11.2% of those between the age of 31–40 years are divorced, followed by ages between 41–50 (9.9%). 25% of those 60 years and above are widowed, followed by 16.2% for the age group 51–60 years.

Table 2: Occupation and Educational Qualification

Occupation	FSLC	SSCE	Degree / HND	Postgraduate Degrees	Total
Farmer	5	1	6	2	14
Trader/Self Employed	17	71	31	8	127
Industrial / Formal Establishment	12	31	18	8	69
Civil Servant	0	8	42	19	69
Students	0	3	1	0	4
Others	2	9	7	9	27
Total	36	123	105	46	310

Table 2 shows occupation of the heads of household heads as follows – Farmers (4.5%), Traders/Self-employed (40.9%), Industrial/establishment workers (22.3%), Civil Servants (22.3%), Students (1.3%) and others (8.7%). Traders/Self-Employed has the highest number of persons with only First School Leaving Certificate (FSLC) (47.2%), followed by Industrial/Establishment workers (33.3%). Industrial/ Establishment workers have the highest number of SSCE qualification (57.8%). Civil servants accounts for the highest undergraduate (40%) and postgraduate degrees (19.6%). No respondent among industrial/ establishment workers, civil servants, students and others have only FSLC certificate. Higher qualifications are mostly needed for these type of jobs.

Table 3: Occupation and Monthly Income

Occupation	≤N40,000	N41,000 – N100,000	N101,000 – N250,000	N250,000+	Total
Farmer	12	2	0	0	14
Trader/Self-Employed	62	50	10	5	127
Industrial/Formal Organization	36	18	13	2	69
Civil Servant	9	25	27	8	69
Students	3	1	0	0	4
Others	14	9	2	1	27
Total	136	105	52	16	310

Table 3 shows higher number (44%) of the heads of households earns less than or ₦40,000 per month. 34% earns between ₦41,000 – ₦100,000 a month; 16.9% earns between ₦101,000 – ₦250,000 per month; while only 5.1% earns above ₦250,000 a month. There is no formal classification of income levels (low, middle and high income) in Nigeria (Ezeudu et al. 2019). Ezeudu et al (2019) classified low income household as those earning less or about ₦100,000; middle income (₦100,001 – ₦250,000) and high income (₦250,001 and above). Since 78.1% of the heads of household of the area earns between ≤N40,000– N100,000 per month, Abakpa-Nike therefore can be classified a low-income area. Currently, Nigeria’s minimum wage is ₦38,000/month. It can therefore be argued that higher number (43.9%) of Abakpa-Nike households earns about or less than the federal monthly minimum wage.

Traders/Self-employed accounts for the highest number of persons (45.5%) earning ≤N40,000 and ₦41,000 – ₦100,000 (47.8%) per month. This suggests the importance of trading/ self-employment to the economy of the state, and livelihood of households. Civil servants accounts for 22.3% by occupation of the study area. However, by monthly income, they account for 25%

and 50% of those earning between ₦101,000 – ₦250,000 and more than ₦250,000 per month, respectively. Enugu City is highly noted for government administration. Many ministries, departments and agencies (MDAs) of the three tiers of governments are located in the city. The “lockdown” measures seems not to have adverse implication on income earning of civil servants. Federal and most state governments still pay their workers’ salaries. However, others – traders / self-employed, industrial / organization workers have been impacted negatively, as shown by the table below.

Table 4: Income Status since Lockdown Measures

	Earning Wages	Not Earning Wages	Somehow	TOTAL
Farmer	9	2	3	14
Trader/Self-Employed	33	37	57	127
Industrial/Formal Organization	46	8	15	69
Others	11	9	7	27
Total	99	56	82	237

Table 4 above shows the income earning status (excluding civil servants and students) of the heads of households since implementation of lockdown measures. Traders/self-employed are the most affected, as only 26% has been earning wages, compared to farmers (64.2%) and Industrial/ establishment workers (66.7%). 52.8% of traders/self-employed “somehow” have been earning wages. The “somehow” can be explained by the partial re-opening of the economy on 4th May, after more than 9 weeks of total lockdown. The “lockdown” of the economy implied loss of trading opportunities, which also has implications for industrial/ manufacturing enterprises. Accordingly, 29.1% of traders/ self-employed reported they have not been earning wages since the lockdown measures. Since 4th May, 2020, most markets in Enugu (notably Ogbete Main Market) are allowed to open only 2-3 days per week. The markets are mandated to close earlier (3:00pm) than the usual 6:00pm before COVID-19 pandemic. Also, restrictions on inter-state and decline in international movements have affected traders who source their goods and products outside the state, and from international markets.

Table 5: Cost Implications of the Lockdown

	Response	Average Cost (₦)
Not Available	58	-
Quantified	80	265,028
Total	138	265,028

Table 5 above shows that the average cost of lost income during the inception of restrictions is ₦265,028. It suggests that the partial shutdown of the economy has serious economic consequence for the people.

Table 6: Financial Support Across Income Group

Financial Support	≤₦40,000	₦41,000 – ₦100,000	₦101,000 – ₦250,000	₦250,000+	Total
Yes	12	1	0	0	13
No	125	104	52	16	297

Table 6 show 4.1% of the heads of households have received financial support from one of the three levels of governments, while 95.9% have not. Only 9.6% of those between the income group ≤₦40,000 has received support. This is worrisome considering that Abakpa-Nike, a high density and low-income residential area, encompasses 38.6% of Enugu city population. It suggests that low-income earners are left to bear financial burden imposed by COVID-19 without government support. Recent fall in oil prices have eroded the economic strength of

Nigeria, a country heavily reliant on oil export for revenues. Still, funds have been earmarked to be disbursed to enterprises and the poor. Example, the Central Bank of Nigeria (CBN) has disbursed over ₦49 billion (Targeted Credit Facility) to small businesses and more than 80,000 households. Similarly, the CBN as at May, 2020 has disbursed ₦107.4 billion out of ₦1.15 trillion of COVID-19 Pandemic Intervention Funds (Odutola 2020). It is therefore urgent that financial support be scaled up and provided to the people.

Table 7: Ownership of Facemasks and Hand Sanitizers of Income Group

	Have Facemask	Don't Have Facemask	TOTAL	Have Hand Sanitizer	Don't Have Hand Sanitizer	TOTAL
≤ ₦ 40,000	101	35	136	73	63	136
₦41,000 – 100,000	96	9	105	76	29	105
₦ 101,000 – 250,000	52	0	52	51	1	52
₦ 250,000 +	14	2	16	15	1	16
Total	263	46	310	215	94	310

Table 7 above suggests that income have a probable effect on ownership of facemask and hand sanitizers. Example, 100% and 98.0% of the heads of households belonging to the income group ₦101,000 – ₦250,000, have facemask and hand sanitizer, respectively. Among the income group of ₦41,000 – ₦101,000, 91.4% and 72.4% owns facemask and hand sanitizers, respectively. 87.5% and 93.8% of the respondents belonging to the income group of ≥₦250,00 owns facemask and hand-sanitizers, respectively. Those earning ≤₦40,000 represents 44% of the respondents, yet only 74.3% and 53.7% owns facemask and hand sanitizers, respectively. The lower number of ownership of facemasks and hand-sanitizers among those earning ≤₦40,000 may be related to prices of the commodities (especially hand sanitizers). In February 29th 2020, a day after Nigeria recorded her first COVID-19 case, the prices of facemasks and hand sanitizers increased tremendously. A box (50 pieces) of disposable facemasks that sold for ₦700 increased sharply to ₦3,500 (Abiola 2020); while a popular brand hand sanitizer of 50ml that used to sell for ₦500 increased to ₦3,000 (BBC News 2020). Subsequently, the people resorted to local (home-made) facemasks and sanitizers. Costs may not be solely responsible for the lower rate of ownership of facemask among the ≤₦40,000 income group. Home-made facemask costs an average of ₦100, while home-made hand sanitizers can be made from WHO guidelines. It is important to note that ownership of facemask and hand sanitizers does not imply its proper and regular use.

Table 8: Facemasks and Hand Sanitizer Type across Income Group

	Medical	Local (Home-Made)	TOTAL	Brand	Local (Home-Made)	TOTAL
≤ ₦ 40,000	4	97	101	16	57	73
₦41,000 – 100,000	15	81	96	38	38	76
₦ 101,000 – 250,000	20	32	52	38	13	51
₦ 250,000 +	11	3	14	11	4	15
Total	50	213	263	103	112	215

Table 8 show that among the heads of household that owns facemask (N=263), 19% uses medical facemasks, while 81% uses locally (home-made) facemasks. 78.6% of those that earn more than ₦250,000 uses medical facemasks, while 71.3% of those that earn ≤ ₦40,000 uses locally (home-made facemask). Similarly, 77.1% and 61.5% of those earning ₦41,000 – ₦100,000 and ₦101,000 – ₦250,000, respectively uses local (home-made mask). Therefore, it

can be deduced that those earning above ₦250,000 uses medical facemask more. The exorbitant cost of facemasks after the emergence of COVID-19 pandemic in the country is the cause. Furthermore, 48% of those that owns hand sanitizers uses brand (commercially produced) made, while 52% uses locally (or home-made) hand sanitizers. Categorizing by income, 73.3% of those that earn more than ₦250,000 uses branded name sanitizers. For the income level ₦101,000 – ₦250,000, 74.5% uses branded name sanitizers. Equal number (50%) of those that earn ₦41,000 – ₦100,000 uses brand name and local (home-made) sanitizers. However, greater number (78%) of those earning \leq ₦40,000 uses local (home-made) sanitizers.

The effectiveness of home-made facemasks and hand-sanitizers has been questioned before. However, a report by Delve-Data Evaluation and Learning for Viral Epidemics revealed use of home-made facemasks and clothing reduces viral transmission (Davis 2020). Similarly, WHO (2020) reports there is no evidence for or against the use of facemasks made from clothing or cotton. WHO (2020) advised the use of non-medical (home-made mask) if breathability, water repellence and number of layers of the fabric are taken into account. Consistent with the WHO guidelines, the U.S. Center for Disease Control (CDC) recommend that appropriate alcohol-based hand sanitizers must contain 60% ethanol and 70% isopropanol, to inactivate coronavirus. Our study did not probe further to ascertain the brand names or chemical contents of the hand sanitizers (for locally-made ones).

Table 9: Personal Awareness of Persons Infected with COVID-19

Awareness	None	Quarantine	Recovered	Dead	Total
Total	296	9	5	0	310

Table 9 show 95.4% of the heads of household don't know anyone that is quarantined, has recovered or that died from coronavirus disease. 3% of the respondents reported that they know someone that has been quarantined by NCDC in their isolation center, while 1.7% reported that they know someone that has recovered or has been discharged from NCDC COVID-19 isolation center. Privacy (medical history) is the right of every individual in a democratic country. It is important that NCDC put innovative effort to publicize personal experiences of everyday Nigerians that are quarantined or have recovered from coronavirus disease. It will put a touch of "human face" in the campaign. Accordingly, it must be voluntary on the part of the patients. These will strengthen advocacy for and observation of the safety and preventive measures of social distancing, proper and regular use of facemasks and hand sanitizing/washing. Many Nigerian elites – governors, politicians, wealthy entrepreneurs that contracted, or that has recovered from coronavirus disease have publicly reported their experiences. However, it is important to also showcase the experiences of "everyday" or common Nigerians that has tested positive or have recovered.

3.2 Survey Response

The response of the respondents on the Likert type items is presented in Tables below.

Table 10: Perception of COVID-19 Pandemic

S/N	Item	Weighted Average	Median
1	COVID-19 pandemic is real	4.42	5
2	COVID-19 pandemic exists in Nigeria	3.91	4
3	COVID-19 pandemic is related to the emergence of 5G Network	2.47	2
4	Observance of social distancing is important to avoid COVID-19 virus infection	4.10	4

5	Appropriate use of facemask is important to avoid COVID-19 virus infection	4.06	4
6	Proper use of hand sanitizer is important to avoid COVID-19 infection	4.10	4
7	Nigeria's hot climate "kills" COVID-19 virus	2.77	3
8	Nigerians immunity is "stronger" than COVID-19 virus infection	2.82	3

From Table 10, the first question, COVID-19 pandemic is real have a weighted-average of 4.42 which is close to 5 implying higher perception that COVID-19 pandemic is real. The second question (COVID-19 pandemic exists in Nigeria) has an average of 3.91 showing that even though the people believe COVID-19 is real, lesser number believe it exists in Nigeria.

The third question, COVID-19 pandemic is related to the emergence of 5G network has a low weighted-average of 2.47 which is closer to 2. It implies that the people do not believe COVID-19 is related to 5G Network. The perception of the people is a step in the right direction. The emergence of coronavirus pandemic in the country witnessed the dissemination of information that it is related to the novel 5G communication network. The misleading expression persisted even though Nigerian Communications Commission (NCC) reported that currently, there is no deployment of 5G network in Nigeria. Countries that don't have 5G network coverage (e.g. Russia, Iran) are also experiencing the COVID-19 pandemic (ITEdgeNews 2020).

There is higher perception among the people that observance of the safety and preventive measures are important to prevent coronavirus infection. However, it is noted that observance of social distancing and proper use of hand sanitizers have relatively higher weighted-average of 4.10 each, compared to appropriate use of facemask (4.06). The three safety measures have median score of 4 each, showing higher perception of the people on the importance of these practices. It is consistent with findings of WHO (2020). The two main routes of transmission of COVID-19 virus are respiratory droplets and contact. Persons closer (within 1m) to infected persons is at risk from respiratory droplets generated through coughs or sneezes; or contact with droplets in surfaces. Infected persons can be asymptomatic and not show signs; or in pre-symptomatic stage. Both asymptomatic and pre-symptomatic persons (in incubation period) can still transmit the virus. Therefore, the importance of social distancing, use of facemask and regular / appropriate hand washing or sanitizing (WHO 2020).

The question, Nigeria's hot climate "kills" COVID-19 virus have a weighted-average of 2.77 which is lower than 3, implying that lesser number of people believe that Nigeria's hot climate "kills" COVID-19 virus. Conversely, it suggests there is higher perception among the people that Nigeria's "hot" climate do not "kill" COVID-19 virus. Test show that an association exists between educational status and perception that Nigeria's hot climate "kills" COVID-19 virus ($p = 0.021$). Accordingly, 41.7% and 30.9% of the people that have only FSLC and SSCE qualifications, respectively, indicated that Nigerians immunity is "stronger" than COVID-19 virus. However, only 27.7% and 13% of those with BSc/HND and postgraduate degrees, respectively, accept it (See Appendix 2). Therefore, it suggests that less educated people are more likely to hold the view that Nigerians hot climate "kills" coronavirus.

Furthermore, the eight item have weighted-average of 2.87, which is lower than 3, implying that lesser number of people believe that Nigerians immunity is "stronger" than COVID-19 virus infection. It therefore suggests that there is a higher perception among the people that Nigerians immunity is not "stronger" than coronavirus infection. Test shows that no association ($p=0.147$) was found between educational status and the perception that Nigerians immune system is "stronger" than COVID-19 virus. It suggests that educational attainment has no relationship to the above perception. Even though lesser number of people believe that Nigerians immunity is "stronger" than coronavirus infection, the view may be related to fewer

number of reported confirmed cases in Nigeria, compared to countries like the U.S., U.K., etc. The relatively lower positive cases in the country is attributed to deficient testing capacity on a wide scale, like the aforementioned countries (Anagor 2020).

Table 11: Perception Towards the Organization Handling COVID-19 Pandemic

S/N	Item	Weighted Average	Median
1	Corruption is prevalent in Nigeria	4.40	5
2	Nigerian Center for Disease and Control (NCDC) is a reliable organization	3.10	3
3	I surf NCDC website for updates on COVID-19 pandemic in Nigeria	2.90	3
4	I watch Presidential Task Force on COVID-19 telecast for updates on Nigerian cases	3.26	4
5	Daily confirmed new cases of COVID-19 given by NCDC is true	2.64	3
6	Recovery and death rate of COVID-19 given by NCDC is true	2.62	3
7	Confirmed new cases are manipulated higher to attract funds from international donors and agencies	3.39	3
8	Funds earmarked for COVID-19 pandemic are disbursed transparently	2.42	2

From Table 11, the first question, have a weighted-average of 4.40 which is closer to 5, implying strong perception that corruption is prevalent in Nigeria. When citizens distrust governments/ political institutions, non-cooperation/ non-compliance to programmes results. Corruption is one of the major cause of citizens' distrust of government institutions. It weakens government resolve geared towards mustering society to achieve positive outcomes. Therefore, hindering effectiveness of government and establishments to function efficiently (Bertsou 2019). Furthermore, greater levels of economic disparity lead to low levels of public trust (Uslaner 2006). This is pertinent as the study result show that Abakpa-Nike is a low-income area, with 78.1% of the respondents earning between \leq ₦40,000 – ₦100,000 per month.

The second item have a weighted-average of 3.10, which is higher than 3, implying that higher number of people indicate that NCDC is a reliable organization. However, the median score of 3 implies that the true position of the perception lies in between the two extreme. Accordingly, this is supported by our result which show that many people (N=104) perceive that NCDC is not a reliable organization. The perception poses a huge public relation impediment to the organization's effort in the fight against coronavirus pandemic in Nigeria. Shoring up public trust in political / government institutions will be extremely difficult to achieve if glaring corruption is perceived to exist (Morris and Klesner 2010). This is very suggestive for Nigeria where corruption exists, and thus may pose serious challenges to government's effort to flatten COVID-19 curve in the country.

The third item have a weighted-average of 2.90, which is lower than 3, implying there is lower perception among the people to surfing NCDC website for updates on coronavirus cases in Nigeria. Conversely, it suggests that higher number of the people don't surf NCDC website for updates. Test shows there is an association between educational status and surfing of NCDC website ($p=0.02$) for updates on COVID-19 pandemic. Consequently, educational attainment

plays a role in respondents' surfing NCDC websites. Cross tabulation shows that 60.9% and 53.3% of respondents with postgraduate degrees and BSc/HND, respectively, visit NCDC website for updates in Nigeria COVID-19 situation. However, only 27.7% and 37.4% of those with FSLC and SSCE, respectively visits NCDC websites (Appendix 3). There may be confounding factors that are not explained - education, age, access to technology, etc.

The fourth item have a weighted-average of 3.26, which is higher than 3, implying that higher number of the people watches Presidential Task Force (PTF) on COVID-19 telecast. Test show that there is an association between educational attainment and watching of the PTF on COVID-19 telecast ($p=0.009$). This is supported by cross tabulation which reveal that 67.3% and 57.1% of those with postgraduate degrees and BSc/HND watches PTF daily telecast. 48.8% and 25% of those with SSCE and FSLC, respectively watches the telecast (Appendix 4). It suggests that educated people are more likely to watch PTF telecast than less educated people. It should be noted that the regularity of watching the telecast was not specified in the questionnaire construct. Therefore, it cannot be deduced how often or not they watch the telecast. Result suggests that as the age of respondents increases, the more likely they are to watch the daily PTF on COVID-19 telecast. It is shown by the following distribution - 45.8% (18–25 years), 51% (26–30 years), 48.5% (31–40 years), 51.7% (41–50 years), 51.4% (51–60 years) and 81.2% (61 years and above) (Appendix 5). It is therefore important that NCDC, other federal and state agencies should find innovative and effective ways to communicate messages on COVID-19 to the younger age group which constitute the majority of Nigerian population. The use of billboards, radio campaigns, jingles and most importantly entertainment (music and Nollywood) stars is therefore very important to mass sensitization on coronavirus pandemic in the country.

The fifth question have a weighted-average of 2.64, which is lower than 3, implying that lesser number of people believe that daily data of confirmed cases given by NCDC is true. This suggest that most of the people don't trust NCDC data on daily confirmed cases. The study did not probe further to know the reasons attributed to distrust of the data given by NCDC. Disbelief of the organization's data may imply distrust of the organization. It should be noted that NCDC only report result of sample testing. It is argued that the actual number of coronavirus cases in Nigeria will be much higher than those reported by NCDC, given Nigeria's inadequate testing capacity. Example, as at April 29th, 2020, NCDC has tested only 13,689 persons nationwide for a country of more than 200 million people. However, Ghana and South Africa have conducted about 113,497 and 200,000 testing, respectively (Anagor 2020). By 8th July, the total tests carried out in Nigeria was 169,626 tests (NCDC 2020b). Hence, while perception may or may not reflect reality of the COVID-19 pandemic situation in the country, it affects behavior and attitude and therefore, may be beneficial or an impediment to effort to flatten the curve (Ogolodom et al. 2020) in the study area. It is more worrisome given that currently Nigeria's poor medical facilities have been overwhelmed by the pandemic. Further escalation of these cases may crumble Nigeria's medical system, especially in poorer areas and states with higher confirmed cases.

The sixth item have a weighted-average of 2.62, which is lower than 3, showing that lesser number of the people perceive that recovery and death rate of COVID-19 given by NCDC is true. Impliedly, it suggests higher perception among the people that the numbers of recovered and death rate of COVID-19 patients given by NCDC are not true. The seventh item have an average of 3.39, which is higher than 3, implying that higher number of the people perceive that number of confirmed new cases are manipulated higher to attract funds from donors and agencies.

The eighth item have a weighted-average of 2.42 which is closer to 2, implying that lesser number of people perceive that funds earmarked for COVID-19 pandemic are disbursed transparently. Conversely, this show that there is higher perception among the people that the funds are not disbursed transparently. This is consistent with the high perception (4.40) among the people that corruption is prevalent in Nigerian government and institutions. It is therefore imperative that Nigerian government, NCDC and other state agencies tasked with handling COVID-19 in Nigeria shore up their public image, to garner trusts among Nigerians. Public trust in government institutions rallies citizens (Nigerians) towards achieving positive outcomes - flattening of COVID-19 curve. Accordingly, transparency in disbursement of the COVID-19 financial support, and public accountability is important. The data should be accessible to the public for verification.

Table 12: Observation of the Preventive Measures

S/N	Item	Weighted Average	Median
1	I use facemask when in public	2.99	3
2	I use hand sanitizer to wash my hand	3.41	4
3	I maintain social distancing when in public	3.10	3

From Table 12, the first item, have a weighted-average of 2.99 which is lower than 3 implying lower observation among the people on frequently using facemask. It is important to note (in Table 10) there is higher perception of the importance of using facemasks (4.06), though it is lesser than that of hand sanitizing (4.10) and social distancing (4.10). Even though 84.9% of the heads of households have facemasks, the critical question is why it is not used often, in the public. The higher level of ownership of facemasks can be related to government directives making it compulsory to have/wear facemask. Similarly, many offices – banks, hospitals, premium shops, some commercial vehicle operators, makes it compulsory for one to wear facemask before being allowed entrance. It has therefore become a decorative piece of clothing usually hanged loosely under the chin, giving rise to the concept “chin mask”. The poor breathability of home-made facemasks which tend to choke (Egbas 2020) may be another reason, considering that 81% of the people have home-made masks. Another reason may be attributed to the perceptions among the people that the daily confirmed new cases and recovery and death data issued by NCDC are not true. It is therefore important to strengthen the campaign for appropriate and regular use of facemask. This is especially relevant for the Abakpa-Nike (high-density area) with more than 700 persons/km² (Ofoezie 2015). Our study shows there is an association between gender and regularity of use of facemask ($p=0.000$). Cross tabulation shows 15.5% and 53.5% of females uses facemask very often and often, respectively. While for males, it is 6.3% and 34.3%, respectively (Appendix 6). Therefore, females are more likely to use facemask regularly than males. The study did not probe further the rationale behind this phenomenon.

Regarding the second item, there is higher observation among the people on the frequent use of hand sanitizer (3.41). As shown in Table 10, there is higher perception among the people on the importance of sanitizing the hands (4.10) in order to prevent COVID-19 infection. Therefore, relatively lesser actual observation of the practice (3.41) implies a knowledge – practice gap. Effort should therefore be put to bridge the gap between knowledge and frequent practice of hand sanitizing. It can be argued that coronavirus pandemic led to the frequent use of hand sanitizer, as shown by the result. This is a positive trend, as it constitutes hygiene maintenance. It cannot be deduced if the practice will continue when the pandemic curve is over. Continuation

of the practice will go a long way in reducing some infectious diseases such as diarrhoea, dysentery, etc, prevalent in unhygienic, high density and low income areas. Our study shows there is no association between gender and frequent use of hand sanitizers ($p=0.066$).

The third item recorded a weighted-average of 3.10, which is higher than 3, implying that slightly higher number of the people frequently observe social distancing. COVID-19 virus are transmitted by symptomatic laboratory confirmed cases. Also, asymptomatic and pre-symptomatic persons can transmit the virus to others. The incubation period of COVID-19 is about 5–6 days (WHO, 2020). Thus, regular cleaning of hands and surfaces and observation of social distancing is very essential. Our study result show there is no association between gender and regular observation of social distancing ($p=0.272$).

4. Conclusion

Coronavirus pandemic is a serious challenge confronting the globe. It is more critical for a developing nation like Nigeria with inadequate medical facilities and personnel, and high level of poverty. Abakpa-Nike, a high density and low-income settlement may share similar attributes with similar settings across Nigerian metropolis. There is low perception, implying that many of the people don't believe that NCDC daily confirmed new cases and recovery/ death rate are true. Similarly, fewer number of the people visits NCDC website for updates on coronavirus. These may be related to higher perception among the people that corruption is prevalent in Nigerian government and institutions. Similarly, it may be related to the high perception that numbers of new cases are manipulated higher to attract funds from international donors. Therefore, NCDC needs to shore up her public image, to garner trust from the public. Furthermore, NCDC, Presidential Task Force on COVID-19 and state governments should design innovative ways to communicate the importance of observation of the three (3) safety and preventive measures. This is especially important as regards frequent wearing of facemasks and observation of social distancing, when in public. The innovation in communicating the messages should take note of the importance of educational attainment. To accommodate the lowly educated population (who are most often lower income group), the use of billboards, entertainment stars, life experiences of those quarantined or that have recovered from coronavirus disease may be used. It should be interesting, personal and informative, and opposite of just reeling statistics, which may be intimidating to a poorly educated population. Also, the messages should bridge the gap between knowledge and practice. There is relatively higher perception among the people on the importance of the three safety and preventive measures compared to actual observation of the measures.

Our study show economic activities have been adversely affected by the pandemic, resulting to financial losses. Therefore, it can be argued that purchasing power of the people has been reduced. The situation becomes critical considering that 95.9% of the people reported they have not received any form of financial support from any of the three-tiers of government. Hence, it is important that federal and state government devise efficient means to assist the citizens. Grants to businesses, soft loans and economic stimuli package should be provided to revitalize the economy.

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Appendix 1
Distributed and Recovered Questionnaire

S/N	Locations	Distributed Copies	Recovered Copies
1	Ugbene II	40	31
2	Amurri Road	40	37
3	Achi Akpa	40	33
4	Convent Avenue	40	26
5	Nkpor Street	40	29
6	Imo River Street	40	32
7	Ugbo Ezeji	40	28
8	Richard Street	40	34
9	Amesi Street	40	24
10	Ikem Street	40	36
		400	310

Appendix 2: Cross Tabulation: Educational Qualification * Nigerians immunity is stronger than COVID-19 virus

Count

		Nigerians immunity is stronger than COVID-19 virus					Total
		Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	
Educational Qualification	FSLC	4	8	9	9	6	36
	SSCE	13	35	36	22	17	123
	Degree/HND	17	33	27	23	5	105
	Postgraduate Degree	6	18	16	3	3	46
Total		40	94	88	57	31	310

Appendix 3: Cross Tabulation of Educational Qualifications of Respondents and Surfing of NCDC Website for Updates

Count

		I Surf NCDC website for COVID-19 Updates					Total
		Strongly Disagree	Disagree	Undecided	Disagree	Strongly Agree	
Educational Qualification	FSLC	13	10	3	8	2	36
	SSCE	28	41	8	35	11	123
	Degree/HND	18	23	8	38	18	105
	Postgraduate Degree	7	5	6	19	9	46
Total		66	79	25	100	40	310

Appendix 4: Crosstabulation: Educational Qualification * I watch COVID-19 Presidential Task Force Telecast

Count

		I watch COVID-19 Presidential Task Force Telecast					Total
		Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	
Educational Qualification	FSLC	5	8	3	12	8	36
	SSCE	14	41	8	30	30	123
	Degree/HND	14	24	13	26	28	105
	Postgraduate Degree	4	12	4	10	16	46
Total		37	85	28	78	82	310

Appendix 5: Cross Tabulation: Age Group * I watch COVID-19 Presidential Task Force Telecast

Count

		I watch COVID-19 Presidential Task Force Telecast					Total
		Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	
Age Group	18 - 25 years	6	15	3	6	5	35
	26 - 30 years	8	16	3	14	10	51
	31 - 40 years	6	18	9	27	20	80
	41 - 50 years	10	25	8	19	29	91
	51 - 60 years	5	8	2	8	14	37
	more than 60 years	2	3	3	4	4	16
Total		37	85	28	78	82	310

Appendix 6: Cross Tabulation: Gender and Regularity of Use of FaceMasks

		IUsesFaceMask					Total
		Very Often	Often	Undecided	Rarely	Very Rarely	
Sex	Male	15	82	15	99	28	239
	Female	11	38	7	12	3	71
Total		26	120	22	111	31	310