



Research Article

Assessment of Compliance with COVID-19 Protocols and Knowledge of Its Implications among Market Women in Akure South Local Government Area of Ondo State, Nigeria

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Abstract

According to Nigeria Centre for Disease Control (NCDC), COVID-19 protocols are the various precautionary measures put in place by the public health practitioners to safeguard the health of the people against the disease. The main aim of the study is to assess the level of compliance with COVID-19 protocols among market women in Akure South Local Government area of Ondo State during the first wave of the pandemic between 27th February, 2020 and 30th November, 2020. A descriptive cross-sectional research design was used for this study. The sample for the study consists of Three Hundred and Ninety Two (392) market women selected from the study area through a random sampling technique. Primary data were collected through self-administered questionnaire and the results were analysed with descriptive and inferential statistics using Statistical Package for Social Sciences (SPSS). Secondary data were sourced from the NCDC reports, health publications and internet. The result showed that the majority of the respondents were aware about the COVID-19 symptoms, mode of transmission, protocols and implications but did not show high level of compliance with the preventive and mitigating measures that were prescribed by the local and global health bodies such as World Health Organization (WHO) and enforced by the governments. The study therefore, concluded that the market women displayed high level of non-compliance with COVID-19 protocols which resulted to high incidence of disease. The study further revealed that nonchalant attitude to precautionary measures have socio-economic and health implications. It is recommended that vigorous awareness programmes, timely enforcement of preventive measures and provision of palliatives during lockdowns to the residents would go a long way in mitigating the effects of the pandemic outbreak in the future.

Keywords: COVID-19, Compliance, Health, Protocols, Market women

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Introduction

According to Nigeria Centre for Disease Control (2020), COVID-19 protocols are the various precautionary measures put in place by public health practitioners to safeguard the health of the people against ravaging diseases. Aiyewunmi and Okeke (2020); Etafa, Gadisa, Jabessa and Takele (2021) and Africa Centre for Diseases Control and prevention (2020) described COVID-19 protocols as the various strategies emplaced by the government in securing the overall well-being of the citizenry. World Health Organization (WHO), (2020) defines protocol as the activities that require both proactive and reactive measures to minimize the burden but with a less danger and impact of acute public health challenges on the populace. COVID-19 is a cluster of acute respiratory disease of unknown etiology that emerged in Wuhan, China in December, 2019, and thereafter spread over the entire globe but with a less burden on Africa continent. NCDC (2020), asserted that COVID-19 was first discovered in Nigeria on the 27th February, 2020 in Lagos State and the index case was Italian citizen who works in Nigeria and returned from Milan, Italy to Lagos.

Due to increase in cases of COVID-19, NCDC rolled out mitigating and containing measures to contain the spread precisely on 17th June 2020. The precaution and measures included: Advocacy for physical and social distancing, complete and partial lockdown, ban on large public gathering, hand washing at regular intervals, using of nose masks, restriction on flight at the country from other countries and closures of land borders among others.

According to the National Surveillance carried out between 27th February and 2nd April 2021 by United Nations Development Partners (UNDP) on fatality of COVID-19, high-proportion of COVID-19 cases and deaths were recorded among persons aged 31- 40years (25.5%) and 61-70 years (26.6%) respectively. The males accounted for a higher proportions of confirmed cases (65.8%) and death (79.0%). Sixty one percent of confirmed cases were asymptomatic diagnosis. As at 31st August 2021, the case fatality of COVID-19 in Nigeria as reported by NCDC stood at 2,723 while number of cases was 205,923.

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On the 19th February 2021, as part of the efforts made by the federal government of Nigeria in curtailing the scourge of COVID-19, the Federal Government of Nigeria took delivery of vaccine known as oxford Astrazenica for the prevention of the disease. So far, all the state governments had collected their share of the dose of the drug. The level of vaccination was not, however, encouraging as some myths surrounding the use of the vaccine and the attendant health issues gained ground among the populace, thereby preventing them from accessing the vaccine (Aiyewunmi and Okeke, 2020). Worst still, the level of compliances of COVID-19 protocols during its first wave in Nigeria was worrisome.

Statement of the Problem

According to the weekly epidemiological update on COVID-19 on 31st August, 2021. The cumulative number of cases reported globally is nearly 216 million and has so far killed almost 4.5 million people (NCDC, 2020). The Federal Government of Nigeria through its disease surveillance body; Nigeria Centre for Disease Control (NCDC, 2020) put up some protocols aimed at curtailing the spread of the virus. These include but not limited to: frequent hand washing with the use of hand sanitizer, physical and social distancing, use of nose masks while outside one's house and restriction on social gatherings.

However, it appeared that the vast majority of the citizenry did not comply with these laid down protocols chiefly due to, among other things, the notion among the citizenry that it is not Africa disease but that of the white men and hence, the disease did not really exist, that the vaccines being given have the potency to weaken or incapacitate people after vaccination (Aiyewunmi and Okeke, 2020; Galanis, Vraka, Katsiroumpa, Siskou, Konstantakopoulou, Katsoulas, Marriolis-Sapsakeos and Kaitelidou, 2022 and Daragahi Zamani, Vosoughi, Zandian and Arbabi, 2022). This cultural factors hindered the general uptake level of the provided vaccine to contain the spread of the disease among the populace. Hence, the need to assess the implications of non-compliance with COVID-19 protocols in Nigeria, particularly in Akure South Local Government where the market women displayed lukewarm attitude to adhere to protocols. This study is guided by the following research questions.

1. What was the level of awareness during first wave of COVID-19 protocols among market women in Akure South Local Government Area?
2. What was the level of compliance during first wave of COVID-19 protocols among market women in Akure South Local Government?
3. What was the level of knowledge of implications of non-compliance

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with COVID-19 protocols amongst market women in Akure South Local Government Area?

Aim of the Study

The main objective of the study is to assess the level of compliance with COVID-19 protocols during the first wave of the disease and knowledge of its implications among market women in AKSLGA of Ondo State.

Specific Objectives are:

1. To determine the level of awareness of the COVID-19 protocols among the market women in AKSLGA.
2. To determine the level of non-compliance with COVID-19 protocols among the market women in AKSLGA.
3. To ascertain the level of knowledge about implications of non-compliance with COVID-19 protocols among women in AKSLGA.

Justification

The study will offer useful information to the policy makers and other relevant stakeholders in the health sector on the plans to address the attitudinal challenges of compliance with future outbreak among the local populace. It will also provide information for the future researchers who might be interested in the same or similar field.

Literature Review

COVID-19 Protocols in Nigeria

In Nigeria, NCDC was at the forefront in the fight against the pandemic and also developed the protocols to help Nigerians stay safe. The guidelines affected all facets of life and the sectors of the economy. That also placed additional burden on all the constituted authorities, state resources and state security apparatuses that were saddled with additional responsibilities of enforcing COVID-19 related guidelines. Some of these protocols included wearing of facemasks, hand hygiene and respiratory hygiene (NCDC, 2020)

According to Coroiu, Moran, Campbell and Geller (2020), Social Distancing, among all COVID-19 preventive measures, is one of the best tools employed to avoid being exposed to the virus. According to the NCDC (2020c), social distancing otherwise known as physical distance entails keeping a space of at least 6 feet between yourself and other people outside the home. The principles of social distancing are:

- i. Keep at least 6 feet (about 2 arms' length) from other people. This is the

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- distance, the droplets from someone coughing or sneezing can travel before they settle.
- ii. Stay away from crowded events or places and avoid mass gatherings. It was because of this that schools were closed, weddings, parties and ceremonies were banned and churches, mosques and markets were not open.

Also, World Health Organization (WHO), (2021) and Pan American Health organization (2020) recommended that medical face masks should be worn primarily by these categories of people: Those showing symptoms of COVID-19, health workers; those caring for patients infected with COVID-19 including the health workers. However, NCDC (2020) advised that the wearing of nose masks by the general public was not compulsory as it just serves as an additional layer, which must be optionally used correctly. Washing of hands with detergents or sanitizing hands using alcohol-based hand sanitizers is another precautionary measure to combat the spread of COVID-19 pandemic. According to National Primary Health Care Development Agency in Nigeria (NPHCDA, 2020), Hand sanitizers are used where soaps and water are not available. They contain alcohol. It is the alcohol that kills the corona virus. There are respiratory hygiene, which are part of the regulatory measures to prevent the spread of COVID-19. These included:

- i. Covering of mouths and noses with bent elbows while coughing or sneezing.
- ii. Coughing and sneezing into tissue paper and dispose immediately into a trash can after use.
- iii. Avoiding touching of faces with hands and
- iv. Avoiding hand shakes

Self-Isolation is described by the NCDC as a situation of staying at home or in an identified accommodation where there won't be free mixing among family members or with the general public; for a period of 14 days. This was adopted as part of the measure to combat the virus. Actually, all these containment and mitigation measures in response to the first wave of COVID-19 might have contributed to the mild outcome unlike what was obtainable globally (Etafa, Gadisa, Jabessa and Takele, 2021). However, some challenging factors such as premature easing of lockdown and social distance measure were caused by economic consideration (Ihekweazu and Salako, 2021); Seale, Heywood, Leask, Sheel, Thomas, Durrhein, Bolsewicz, Kaur, 2020) and Silesh, Denoisie, Taye, Desta, Kitaw, Meturia, Tafesse, and Fenta, 2021). In Nigeria, 85% of the people rely on daily economic activities to make a living and socio-economic measures put in place by the government like distribution of palliatives did not go round to cushion the effects of economic losses accrued during the periods of lockdown and curfew. The non-compliance with all these of some of these measures

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in pursuit of survival might have led to the recorded increased incidence of the virus in Lagos, Oyo, Plateau, Ondo and Federal Capital Territory (FCT).

Theoretical Framework

This study is anchored on the Health Belief Theoretical Model. According to Rosenstock, Strecher and Becker (1988), Health belief model is a social and psychological health behaviour change model developed to help explain and predict health-related behaviour, particularly with respect to acceptance of health interventions. The relevance of this theory to the study is that the market women belief in the cause and perceived severity of COVID-19 will go a long way in determining their acceptance or otherwise of any intervention made available by the government to curb the spread of the disease among them.

Methodology

The research design adopted for the study is descriptive research design. This method allows for collection of data in quantitative manner. The study population comprises market women in Isikan, Adedeji, Erekesan, Odopetu, and Nepa markets in Akure south local government area of Ondo State. To determine the sample size of this study, Leiz Fisher's formular was adopted. Below is the calculation Using Leiz Fisher's formula

$$n = \frac{Z^2 p(1 - p)}{d^2}$$

n = Sample Size

Z = Standardized normal distribution (for a level of confidence of 95%)

p = Prevalence (0.5) Estimated proportion of the population presents the characteristics when unknown, we use p = 0.5)

Z= 1.96

d= Tolerated merging of error (5% or 0.05)

$$n = \frac{3.92 \times 0.5(1 - p)}{0.0025}$$

$$n = \frac{3.92 \times 0.5(0.5)}{0.0025}$$

$$n = \frac{0.96}{0.0025}$$

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n=392

Thus, 392 respondents were considered as the sample size. A simple random sampling technique (balloting) was adopted for selection of participants for the study. This type of sampling technique gives all the participants equal chance of being selected. The participants were assessed using structured questionnaire. The instrument has 3 sections. Section A contains the social demographic profiles of the respondents. Section B contained questions raised to assess the level of non-compliance with COVID-19 protocols among the market women. Section C contained questions raised to assess the knowledge about implications of non-compliance with COVID-19 protocols among the respondents. The questions consisted of open and close ended questions.

Data Presentation and Analysis

The data generated were analyzed using descriptive statistics such as frequency table, percentage and inferential statistics (correlation coefficient)

Table1: Socio-demographic characteristics of the respondents

Variable	Frequency	Percentage (%)
Age group(Year)		
≤29years	90	23.0
30-39years	207	52.8
≥40years	95	24.2
Total	392	100
Marital status		
Single	14	3.6
Married	345	88.0
Divorced	18	4.6
Separated	15	3.8
Total	392	100
Religion		
Christianity	225	57.4
Islam	143	36.5
Traditional	24	6.1
Total	392	100
Education Status		
No formal education	168	42.86
Formal Education	224	57.14
Total	392	100

Source: Field Survey, 2023

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Table 1 presents the demographic profile of the respondents, by age, marital status, religion, educational background. The result showed that the majority (52.8%) of the respondents, were between 30 and 39 years while those who fell within 40 years and above are 95 representing (24.2%) and 90 respondents are 29 years and below representing 23% of the total respondents. The marital status of the respondents shows that most of the respondents (88%) were married. Christianity is the most practiced religion among the respondents accounting for 57.4% while 224 (57.14%) respondents had formal education and 168 (42.86%) respondents did not have.

Table 2 presented the level awareness of COVID-19 protocol among the respondents. The table showed that most of the respondents 96.94% claimed to be aware that COVID-19 can spread from person to person within close distance of approximately six feet. Also most of the respondent (94.4%) claimed to have been aware of the signs and symptoms of COVID-19 infection. 97.2% agreed that as at now that is no there is no effective drug against COVID-19 only vaccination is available. In the same view 93.6% agreed that people should avoid touching their eyes, nose and mouth with unwashed hand towards preventing the spread of COVID-19. Most of the respondents (96.43%) equally were of the opinion that COVID-19 can spread through respiratory droplets, which occur when infected person coughs or sneezes. 96.94% of the respondents agreed that isolation of the patient and prompt treatment are effective way of reducing the spread of the disease. However, 9.44% objected to going to crowded places as a measure against the spread of COVID-19 infection. In the same vein, 14.54% did not agree with eating of healthy food and drinking of portable water as a measure against the spread of COVID-19 while 84.46% agreed. 195 respondents obtained information about COVID-19 from radio jingle representing 49.74%.

Research question 1: What is the level of awareness on COVID-19 protocols among the respondents.

Table 2: Respondents' level of awareness on COVID-19 protocol

Variable	Yes%	No%
COVID-19 spreads from person to person within close distance of approximately six feet	380(96.94)	12(3.06)
The main clinical symptoms of COVID-19 are fever, fatigue, dry cough and shortness of breath	370(94.4)	22(5.6)
Currently there is no known effective cure for COVID- 19 only vaccination is available	381(97.2)	11(2.8)
Those that have underlying ailments are much susceptible to COVID-19	347(88.52)	45(11.48)
People should avoid touching their eyes, nose or mouth with unwashed hands.	367(93.6)	25(3.4)
COVID-19 can spread through respiratory droplets, which occur when infected person coughs or sneezes.	37(96.43)	14(3.57)
To prevent transmission of COVID-19, patients should avoid going to crowded places	355(90.56)	37(9.44)
Isolation and treatment of people infected with COVID-19 are effective ways to reduce the spread of the virus	380(96.94)	12(3.06)
Sources of information on COVID-19.:		
Television	82	20.92
Radio Jingle Newspaper	195	49.74
Internet	17	4.34
Hospital	25	6.38
Friends and Family	40	10.20

Source: Field Survey 2023

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Research question 2: What is the level of compliance with COVID-19 protocols among the Respondents?

Table 3: Responses of the respondents to assess the level of non-compliance of the COVID-19 protocols.

Variable	Yes (%)	No (%)
Did you always put on face mask while you were in the Market place?	53(13.5)	339(86.5)
Did you always apply hand sanitizer after washing your hand?	43(10.97)	349(89.03)
Did you always observe safe distance from other market women in the market place?	56(14.29)	336(85.71)
Did you stay at home during the lockdown/curfew?	52(14.29)	340(86.73)
Did you always avoid handshake and hug from your fellow market women?	42(10.7)	350(89.3)

Source: Field Survey 2023

Table 3 presents the views of the respondents on their level of compliance with COVID-19 protocols. The table shows that the majority of the respondents 86.5% did not always wear facemasks while in the markets. Only 13.5% said they did. Similarly, 85.71% respondents claimed that they did not always maintain safe distance from their fellow market women while in the market place. Only 14.29% said they did. In same vein, only 52(14.29%) respondents stayed at home during lockdowns while 340 (86.73%) did not. 350 respondents did not avoid handshake and hug while only 42 (10.7%) complied. It can be inferred that the majority of the respondents do not comply with the laid down COVID-19 protocols. Therefore, their level of non-compliance could be said to be high.

Research question 3: What is the level of knowledge of implications of non-compliance with COVID- 19 protocols among market women Akure South Local Government?

Table 4: Respondents' views on the implications of non-compliance with COVID-19 protocols

Variable	Yes%	No%
Noncompliance with COVID-19 protocol can increase incidence of the disease	339(86.48)	53(13.52)
Noncompliance with COVID-19 protocols will increase the number of death from the disease	349(89.03)	43(10.97)
Noncompliance with COVID-19 protocols well affect the country's relationship with other countries	326(83.16)	66(16.84)
Do you agree that noncompliance with COVID-19 protocols will scare away foreign investors from our country.	336(85.71)	56(14.29)
Non- compliance with COVID-19 protocols will in a way affect government finance through procurement of vaccines and enforcement	357(91.07)	35(8.93)
Non-compliance with non-compliance can attract jail terms.	350(89.29)	34(8.67)

Source: Field Survey, 2023

Table 4 presents the knowledge of respondents' implications of non-compliance with COVID-19 protocols. The table shows that most of the respondents 86.48% claimed that non-compliance with COVID-19 protocols can increase the incidence of the disease. Also 89.03% of the respondents agreed that non-compliance with COVID-19 protocols will lead to increase in number of death from the disease. 85.71% of the respondents equally agreed that non-compliance with COVID-19 protocols can scare away foreign investors from the country. In the same vein 91.07% of the respondents were of the opinion that non-compliance with COVID-19 protocols, will in a way increase government finances through the procurement of drug and enforcement. However, 35 of them representing 8.93% disagree with the assertion. 66 representing 16.84% of the respondents did not agree that non-compliance with COVID-19 protocols will affect the country's relationship with other countries of the world.

Discussion

The purpose of the study was to evaluate the level of compliance with COVID-19 protocols and its knowledge about the implications among market women in Akure South Local Government Area of Ondo State. The study showed that the level of awareness of COVID-19 among market women of Akure South Local Government area is high using formal information sources (mass media, internet and hospitals) as it shown in Table 1 which can be responsible for the increase in the knowledge about the spread of COVID-19. This aligned with the findings of Aamir, Zaidi, Saadia, Aamir, Zaidi, Lai and Fatima (2021); Jacob and Okeke (2022) and Rusou and Diamant (2023).

The study also revealed that the level of compliance to COVID-19 protocols among the Respondents is very low despite their high level of awareness about the disease and that they have high knowledge of the implications of non-compliance with COVID-19 protocols as illustrated in Table 3. This was supported by the findings of Omotosho, Omotosho, Paimo, Teibo and Abolaji (2021) that confirmed satisfactory knowledge, positive attitude and a relatively poor adherence to the COVID-19 preventive measures in their continental review and the findings of Moran, Campbell, Roach, Bourassa, Collins, Stasiewicz and Mclane (2021); Shuka, and Zewdu (2020). This result is also similar to the findings of the study carried out by Etafa, Gadisa, Jebessa and Takele (2021) in public hospitals in Western Ethiopia and Sanyaolu, Okorie, Marinkovic, Patidar, Younis, Desal, Hosein, Padda, Mangat and Altaf (2020).

However, Aiyewunmi and Okeke (2020); Ibrahim, Ajide and Olatunde (2020); Oyeaghala and Olajide and Onyenubi and Kollamparambil (2023) were in contrast with the findings of this study as they concluded that women in their study were aware of COVID-19 protocols but quite unaware of the implications of non-compliance with the laid down protocols. After due juxtaposition with respect to the locations of the previous studies, it is hereby recommended that government should intensify efforts towards creating more awareness among the populace in any future eventuality.

Conclusion

Based on the findings from the study, it is concluded that there is high level of awareness of COVID-19 protocols. The study further concluded that there is high level of non-compliance with COVID-19 protocols among market women in Akure South LGA despite, the respondents have high knowledge of the implications of non-compliance with COVID-19 protocols.

Recommendations

The study will make the following recommendations in a bid to enable the concerned bodies to design interventions that will optimise Nigerian response to subsequent phases or waves of the COVID-19 epidemic as well as for future pandemics.

- 1) Government should create aggressive awareness campaigns about the pandemic in time and remote areas of the local government should be reached through well-coordinated strategies
- 2) The enforcement team during the lockdowns should be empowered to mete out appropriate punishments to those that would not comply with the protocols
- 3) The actions of National Centre for Diseases Control should not be obstructed by any unnecessary political interference
- 4) Socio-economic provision should be made in large quantities to support families and businesses during and shortly after the Outbreak
- 5) Centre for Diseases Control and other health ministries, Departments agency should be funded and trained on response strategies and decision making during any pandemic outbreak

References

- Aamir, F.B., Zaidi, S.M.A., Saadia, A., Aamir, S.R., Zaidi, S.N.A, Lai, K.K and Fatima, S.S. (2021). Non-Compliance to social distancing during COVID-19 pandemic: A comparative cross-sectional study between the developed and developing countries. *Journal of Public Health Research*, 11(1), 2614 doi:10.4081/jphr.2021.2614.
- Africa Centres for Diseases Control and Prevention (2020). Registered interventional clinical trials in Africa. African Union Commission launches consortiums for COVID-19 Vaccine Clinical Trial. Africadc.org.
- Aiyewumi, O., and Okeke, M.I. (2020). The myth that Nigerian are immune to SARS-cov-2 and that COVID-19 is a hoax are putting their lives at risk. *Journal of Global Health*. 10(2):020375.doi:10.7189/jogh.10.020375.
- Coroiu, A., Moran, C., Campbell, T., and Geller, A.C. (2020). Barriers and facilitators of adherence to social distancing recommendations during COVID-19 among a large international sample of adults. *PLOS One*.15(10). e0239795. doi:10.1371/journal.pone.023975.
- Daragahi. A., Zamani, Z., Vosoughi, N.M., Zandian, H., Arbabi, Y.S. (2022). Explaining the reasons for the general public's non-compliance with the policies of the National Anti-Coronavirus Headquarters. *A Qualitative study Health in Emergencies and Disaster Quarterly*. 7(3), 145-160
- Etafa, W., Gadisa, G., Jabessa, S., and Takele, T., (2021). Healthcare workers' compliance and its potential determinants to prevent COVID-19 in public hospitals in Western Ethiopia., *BMC Infection Diseases*. 21(1), 454. doi:10.1186/s12879-021-06149-w
- Galamis, P., Vraka, I., Katsiroumpa, A., Siskou, O., Konstantakopoulou, O., Katsoulas, T., Marriolis-Sapsakos, T., and Kaitelidou, D. (2022). Attitudes toward COVID-19 pandemic among fully vaccinated individuals: Evidence from Greece Two years after the pandemic. *medrxiv*. 29(2), 245-257
- Ibrahim RL., Ajide B, and Olatunde J.(2020). Easing lockdown measures in Nigeria: Implications for the healthcare system. *Health Policy Technology*. 2020; 9[4]:399-404.doi:10.1016/j.hlpt.

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ISSN: 3043-6087. Science and Education Development Inst., Nigeria

- Ihekweazu CA, and Salako B [2021]. NCDC and NIMR release findings of COVID-19 household seroprevalence surveys in four states of Nigeria, Nigeria Centre for Diseases Control. <https://ncdc.gov.org/news/323/ncdc-and-nimr-release-findings-of-COVID-19-household-seroprevalence-surveys-in-four-states-of-nigeria>
- Jacobs, E.D., and Okeke, M.I (2022). A critical evaluation of Nigeria's response to the first wave of COVID-19. *Bull National Research Centre*. 46(1), 44.doi:10.1186/34226 9-022-00728-9s
- Moran, C., Campbell, D.J.T., Campbell, T.S., Roach, P., Bourassa, L., Collins, Z., Stasiewicz, M., and Mclane, P. (2021). Predictors of attitudes and adherence to COVID-19. Public health guidelines in Western countries: A rapid review of the emerging literature. *Journal of Public Health (Oxford)*. 43(4), 739-753. doi:10.1093/pubmed/fdab070.
- National Primary Health Care Development Agency (2020): *Flip chart on COVID-19 for community volunteers*.
- NCDC (2020) Nigeria Centre for Diseases Control: COVID-19 situation report 198 Sunday,13th September. www.ncdc.gov.ng/diseases/sitreps/
- Omotoso, O.E., Omotoso, E.F., Paimo, K.O., Teibo, J.O and Abolaji, A.O (2021). Knowledge and Adherence to COVID-19 preventive measures: A Continental Review. *Sudan Journal of Medical Sciences*, 16(3). 371-385.
- Onyeaghala AA, Olajide I.(2020). Managing COVID-19 outbreak in Nigeria: Matters arising. *Clinical Chemistry and Laboratory Medicine*.,58(10): 1645-1650. doi: 10.1515/cclm-2020-0748.
- Oyenubi, A., and Kollamparambil, U. (2023). Does non-compliance with COVID-19 regulations impact the depressive symptoms of others? *Economic Modelling* 120(2023)106191 www.journals.elsevier.com/economic-modelling.
- PAHO(2020) Pan American Health Organization: facemasks during outbreaks: who, when, where, and how to use them. www.paho.org/en/news/28-2-2020-face-masks-during-outbreaks-who-when-where-and-how-to-use-them.

This work is licensed under a [Creative Commons Attribution 4.0 Unported License](https://creativecommons.org/licenses/by/4.0/)
ISSN: 3043-6087. Science and Education Development Inst., Nigeria

- Rosenstock, I.M., Stretcher, V.J., and Becker, M.H (1988). Social learning theory and Health Belief Model. *Health Educator Quarterly*, Published by John Wiley and Sons, Inc., 15(2), 175-183.
- Rusou, Z., and Diamant, I. (2022). Adhering to COVID-19 guidelines: A behavioural-failure perspective *Frontiers in Psychology*, 13-2022 frontierin.org doi:10.3389/Fpsyg.2022.916960.
- Seale, H., Heywood, A.E, Leask, J., Sheel, M., Thomas, S., Durrhein, D.N., Bolsewicz, K., and Kaur, R. (2020). COVID-19 is rapidly changing: Examining public perceptions and behaviours in response to this evolving pandemic. *PLOS One*, 15(6). E0235112, doi:10.1371/journal.pone.o235112.
- Sanyaolu, A., Okorie, C., Marinkovic, A., Patidar, R., Younis, K., Desai, P., Hosein, Z., Padda, I., Mangat, J., and Altaf, M. (2020). Comorbidity and its import on patients with COVID-19. *SN. Comprehensible Clinical Medicine*. 2(8), 1069-1076. Doi:10.1007/s42399-020-00363-4.
- Silesh, M., Denoisie, T.L., Taye, B.T, Desta, K., Kitaw, T.M., Meturia, D.A., Tafesse., T.T and Fenta, B. (2021). Compliance with COVID-19 preventive measures and associated factors among women attending ante-natal care at public health facilities of Debre Berhan Town, Ethiopia. *Risk management and Healthcare Policy*, 14, 4561-4569. doi:10.2147/RMHP.s330932
- Shuka, Z., Zewdu, G.A. (2020). Containing the spread of COVID-19 in Ethiopia *Journal of Global Health*. doi:10.7189/jogh.10.010369
- WHO (2021): Weekly Epidemiological Update on covid-19.
[https://www.who.int/publication/m/item/weekly-epidemiological-update-on COVID](https://www.who.int/publication/m/item/weekly-epidemiological-update-on-COVID)