

## **Analysis of Knowledge, Attitudes and Practices towards Covid-19 Pandemic Among Rural Dwellers in North Central Nigeria: Educational Implication**

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### **Abstract**

The study sought to carry an analysis of knowledge, attitudes and practices towards covid-19 pandemic among rural dwellers in North Central Nigeria: Educational implication. Four research questions were utilised in the study. The design was a descriptive survey research design. The descriptive survey research design is considered most appropriate for this study because it allows the researcher to make inference about the population by selecting and studying the sample for the study. The population of this study comprised 5879 dwellers in North central Nigeria while Kogi precisely in Jingbe, Niger state specifically in Tegna, Marig and Chanchaga and Benue state specifically in Otukpo and Vandekia all in North central Nigeria. A sample of 2,891 respondents were purposively drawn for the study. The researchers emailed the questionnaires to the research assistance. Also some medical experts were consulted from different health centers the respective states (villages). The instruments were given to the trained assistance via e-mail who then printed and did a house-to-house administration of the instrument. The process took seven months (March- September, 2020). The study utilized a researcher's developed instrument entitled "Knowledge, Attitude and Practice Questionnaire (KAPQ)" The KAPQ was validated by experts in Measurement and Evaluation. The reliability estimate of the instrument was established through trial testing of the instrument which was administered to 102 respondents who were not part of the final study. Cronbach Alpha reliability method was used to test the internal consistency of the instrument and the reliability index ranged from 0.79 to 0.83 respectively. The statistical analysis used was descriptive statistics (simple percentages and bar charts) and the findings revealed that rural dwellers display poor knowledge, attitude and practices of the existence covid-19 in north central, Nigeria. Also, gender, location and educational attainment has influence on the knowledge, attitudes and practices on the existence of covid-19 in north central. It was recommended among others that the idea of lockdown is good but it must be accompanied with adequate provision of food and essential household requirements (basic needs) for everybody.

**Keywords:** Knowledge, Attitudes, Practices, Covid-19, Pandemic, Rural Dwellers In Research Undertakings

### **Brief Historical Background of Covid-19 pandemic**

Covid-19 otherwise known as coronavirus is one of the world recent disasters that have come to eradicate and reduce human existence in the world. The commonest symptoms attached with this virus are high fever and in most cases difficulty in breathing acute dryness of the throat. These

viruses are suspected to be found in most animals such as monkeys, apes and chimpanzees. The World Health Organization (WHO) used the term 2019 novel corona virus to refer to a coronavirus that affected the lower respiratory tract of patients with pneumonia in Wuhan, China on 29 December 2019. It was reported that a cluster of patients with pneumonia of unknown cause was linked to a local Huanan South China Seafood Market in Wuhan, Hubei Province, China in December 2019 (World Health Organization, 2020).

To this end, the Chinese Center for Disease Control and Prevention (China CDC) ordered response team to accompany health authorities of Hubei province and Wuhan city requested for an urgent investigation into the remote and immediate causes of the diereases. The WHO confirmed that the outbreak of the coronavirus epidemic was associated with the Huanan South China Seafood Marketplace, but no specific animal association was identified (World Health Organization, 2020). This implies that the disease was suspected to be spread by Huanan South China Seafood Marketplace. This calls for the need for immediate research by the government and other scientific scholars to delve into the cause of the outbreak. Speculations have it that COVID-19 was published by the research team led by Prof. Yong-Zhen Zhang, on 10 January 2020. Within one month, this virus spread quickly throughout China during the Chinese New Year a period when there is a high level of human mobility among Chinese people. Unfortunately, COVID-19 has now been declared to be a dreaded disaster to human health.

From the context of Nigeria, the corona virus is traced in February, 27<sup>th</sup> 2020 where a patient was diagnosed of the killer virus and the Federal Ministry of Health in Lagos State, Nigeria which was believed to be the first case to be reported in Nigeria since the beginning of the outbreak in China in January 2020. It was believed that the covid-19 came into Nigeria from an Italian citizen who traveled to Milian but came back to continued his work n Nigeria via Lagos, Nigeria on the 25th of February 2020. The Italian man was confirmed by the Virology Laboratory of the Lagos University Teaching Hospital, part of the Laboratory Network of the Nigeria Centre for Disease Control. The patient is clinically stable, with no serious symptoms, and is being managed at the Infectious Disease Hospital in Yaba, Lagos. The Government of Nigeria, through the Federal Ministry of Health has put series of strategies in place quick control and speedy recovery of patience from the disease. The Nigeria Centre for Disease Control (NCDC) has put in place the National Emergency Operations Centre and will work closely with Lagos State Health authorities to respond to this case and implement firm control measures of the diseases from the midst of the masses.

Coronaviruses are a large family viruses that are able to be transmitted from animals to humans, and they causes severe illness such as serious respiratory disorder coupled with cold. For instance; kidney failure and death can occur as a result of corona virus infection. The diseases are spread among individual through droplets produced from the respiratory system of infected people, often during coughing or sneezing. According to current data, time from exposure to onset of symptoms is usually between two and 14 days, with an average of five days before the disease can be fully detected.

### **Background to the study**

Education is an inevitable tool for societal growth and development. To this end, every nation that wants to strive scientifically and technologically must strive for quality education. This implies that quality education helps in raising social skills and social awareness. From an educational point of view, the primary point of being in school is that it increases a child's ability. And promote skills and manpower development. Quite unfortunate, the COVID-19 has interrupted the educational calendar, causing lots of problem and delay on the part of the teachers and students. This is glaring that the corona virus (COVID-19) has greatly affected the world and causing hindrance in the overall productivity in the society.

The diseases has made most state to close down academic activities (Andersen & Nielsen, 2019). This has negatively impacted on the overall academic calendar. Corona virus has affected teaching and learning in all academic environment which has made most state to resort into online teaching and learning (visual earning), on an untested and unprecedented scale. This implies that student assessments are also moving online, with a lot of trial and error and uncertainty for everyone. The issue at stake is that this break in academic activities will not just affect the individual but the overall economy. It becomes very pertinent to adopt quick measures on how to tackle the dreaded diseases so as to avoid total lockdown of the economy of the nation.

In a study by Ma, Lihua, Hui, Ning, Song and Xiaolian, (2020) on the topic knowledge belief attitude and practices of rural residence in the prevention and control of covid 19;an online questionnaire survey in China. Their study utilized a self-designed questionnaire to assess residents' knowledge, attitudes and behaviors related to COVID-19 prevention and control was borrowed from the Questionnaire Star service platform, and snowball sampling was used to invite rural residents to complete the questionnaire on We-Chat. Data analysis was performed with SPSS 22.0 statistical software. A total of 554 valid questionnaires were collected. Rural residents' average score of knowledge about the prevention and control of new coronary pneumonia was  $39.75 \pm 6.703$ , the average score of prevention and control attitude was  $45.40 \pm 3.341$ , and the average score of prevention and control behavior was  $104.69 \pm 12.167$ . Multiple linear regression analysis showed that male residents' scores for knowledge, attitudes and behaviors related to SARS were significantly higher than those of women who had not experienced SARS ( $P < 0.01$ ); the scores of attitudes and behaviors of rural residents aged 30 and under were significantly higher than those of other age groups ( $P < 0.01$ ); residents with an education level of junior high school or below and those who worked as farmers had significantly lower scores in knowledge, attitude, and behavior than those with other education levels ( $P < 0.05$ ); the knowledge and behavior scores of respondents with poor family economic conditions were significantly lower than those with good and moderate family economic conditions ( $P < 0.05$ ); and residents with chronic diseases and those living in areas with confirmed cases had significantly higher knowledge and behavior scores than those without chronic diseases and no or unknown living cases ( $P < 0.05$ ). Rural residents' scores for knowledge and attitudes, attitudes and behaviors, and knowledge and behavior were positively correlated with new coronary pneumonia control ( $P < 0.05$ ). The difficulties and challenges they perceived during the epidemic were a lack of protective equipment and travel difficulties (lack of transportation) and weak awareness of prevention and control. The study concludes that rural residents have a good grasp of COVID-19 and a positive attitude toward the need for prevention and control by individuals, communities, and the government during the epidemic.

Preeti, Anshi Sumeet and Hemant (2020) were interested in studying Knowledge, attitude, and practices regarding COVID-19: A cross-sectional study among rural population in a northern Indian District. With a total of 372 participants hailing from rural areas were enrolled. The study revealed that most common source of information for the participants was through television (54.8%) and radio (49.2%). Only 77% claimed that they were using face mask and 72% claimed to be following social distancing. A large (60%) proportion of the participants did not know that COVID-19 could spread from asymptomatic patients. The study concludes that television/Radio channels form an important source of information and need to be used more effectively to educate the people about the disease and create awareness about effective preventive measures. People need to be educated about the role of asymptomatic carriers in spreading the disease.

In another empirical study by Rine, Danladi, Dauda and Ejembi (2020). Were concerned in studying Knowledge, Attitudes and Practices Towards COVID-19: An Epidemiological Survey in North-Central Nigeria. A cross-sectional online survey with a semi-structured questionnaire using a Snowball sampling technique was conducted during the national lockdown. Data collected were analyzed using descriptive statistics, analysis of variance (ANOVA), Pearson's correlation and regression tests. From a total of 589 responses received, 80.6, 59.6, 90.4 and 56.2% were from respondents between ages 18–39 years, males, had a college (Bachelor) degree or above and reside in urban areas respectively. Respondents had good knowledge (99.5%) of COVID-19, gained mainly through the internet/social media (55.7%) and Television (27.5%). The majority of the respondents (79.5%) had positive attitudes toward the adherence of government IPC measures with 92.7, 96.4 and 82.3% practicing social distancing/self-isolation, improved personal hygiene and using face mask respectively. However, 52.1% of the respondents perceived that the government is not doing enough to curtail COVID-19 in Nigeria. Pearson's correlation showed significant relationship between knowledge of COVID-19 and attitude towards preventive measures ( $r = 0.177$ ,  $p = 0.004$ ,  $r = 0.137$ ,  $p = 0.001$ ). Although 61.8% of the respondents have no confidence in the present intervention by Chinese doctors, only 29.0% would accept COVID-19 vaccines when available. This study recorded good knowledge and attitudes among participants, however, community-based health campaigns are necessary to hold optimistic attitudes and practice appropriate intervention measures devoid of misconceptions.

Lavy (2015) conducted a study to estimate the impact on learning of differences in instructional time across countries. The study shows that total weekly hours of instruction in mathematics, language and science is 55% higher in Denmark than in Austria. These differences matter, causing significant differences in test score outcomes: one more hour per week over the school year in the main subjects increases test scores by around 6% of a standard deviation. In our case, the loss of perhaps 3-4 hours per week teaching in mathematics for 12 weeks may be similar in magnitude to the loss of an hour per week for 30 weeks. So, rather bizarrely and surely coincidentally, we end up with an estimated loss of around 6% of a standard deviation again. Leaving the close similarity aside, these studies possibly suggest a likely effect no greater than 10% of a standard deviation but definitely above zero.

Also, Yaling, Chenchen, Yan, Juan, Kui, Zhaohui and Ping (2019) conducted a cross-sectional survey to investigate the knowledge, attitude and practice (KAP) associated with COVID-19 among university students during their household isolation at the peak of this pandemic. 872 university undergraduates were recruited from 10 universities in Shaanxi Province, China, in a stratified cluster sampling method. A self-administered and close-ended questionnaire was answered by subjects online voluntarily and anonymously to collect their answers regarding their KAP associated with COVID-19. Results showed that appropriate knowledge was acquired by 82.34% subjects, but the level was significantly higher in students from public universities and medical programs than in their counterparts ( $P < 0.05$ ). 73.81% subjects reported positive attitude, with level significantly higher in females ( $P < 0.01$ ). Proactive practice was found in 87.94% subjects. Taken together, the score of KAP was  $4.12 \pm 0.749$ ,  $8.54 \pm 1.201$ , and  $8.91 \pm 1.431$  respectively, suggesting a positive correlation between attitude and practice ( $r = 0.319$ ,  $P < 0.01$ ). Total KAP score was  $21.57 \pm 2.291$ , apparently correlated with gender ( $r = 0.096$ ,  $P = 0.005$ ) and major ( $r = -0.081$ ,  $P = 0.017$ ).

In an empirical study by Akshaya, Ali, Jamal, Mohammad, Ashrafi and Deepak (2020) study aimed to investigate the knowledge and perceptions of HCWs about COVID-19. Methods: A cross-sectional, web-based study was conducted among HCWs about COVID-19 during the first week of

March 2020. A 23-item survey instrument was developed and distributed randomly to HCWs using social media; it required 5 minutes to complete. A chi-square test was used to investigate the level of association among variables at the significance level of  $p < 0.05$ . Results: of 529 participants, a total of 453 HCWs completed the survey (response rate: 85.6%); 51.6% were males, 32.1% were aged 25-34 years, and most were doctors (30.2%) and medical students (29.6%). Regarding COVID-19, most of the participants used social media to obtain information (61%), and a significant proportion of HCWs had poor knowledge of its transmission (61%) and symptom onset (63.6%) and showed positive perceptions of COVID-19 prevention and control. Factors such as age and profession were associated with inadequate knowledge and poor perception of COVID-19. Conclusion: As the global threat of COVID-19 continues to emerge, it is critical to improve the knowledge and perceptions of HCWs. Educational interventions are urgently needed to reach HCWs beyond borders, and further studies are warranted.

Similarly, Bao-Liang, Wei, Hai-Mei, Qian-Qian, Xiao-Ge, Wen-Tian and Yi (2020) conducted a study on Knowledge, attitudes, and practices towards COVID-19 among Chinese residents during the rapid rise period of the COVID-19 outbreak: a quick online cross-sectional survey TOWARDS Chinese residents' KAP towards COVID-19 during the rapid rise period of the outbreak. An online sample of Chinese residents was successfully recruited via the authors' networks with residents and popular media in Hubei, China. A self-developed online KAP questionnaire was completed by the participants. The knowledge questionnaire consisted of 12 questions regarding the clinical characteristics and prevention of COVID-19. Assessments on residents' attitudes and practices towards COVID-19 included questions on confidence in winning the battle against COVID-19 and wearing masks when going out in recent days. Among the survey completers ( $n=6910$ ), 65.7% were women, 63.5% held a bachelor degree or above, and 56.2% engaged in mental labor. The overall correct rate of the knowledge questionnaire was 90%. The majority of the respondents (97.1%) had confidence that China can win the battle against COVID-19. Nearly all of the participants (98.0%) wore masks when going out in recent days. In multiple logistic regression analyses, the COVID-19 knowledge score (OR: 0.75-0.90,  $P < 0.001$ ) was significantly associated with a lower likelihood of negative attitudes and preventive practices towards COVID-2019. Most Chinese residents of a relatively high socioeconomic status, in particular women, are knowledgeable about COVID-19, hold optimistic attitudes, and have appropriate practices towards COVID-19. Health education programs aimed at improving COVID-19 knowledge are helpful for Chinese residents to hold optimistic attitudes and maintain appropriate practices. Due to the limited sample representativeness, we must be cautious when generalizing these findings to populations of a low socioeconomic status.

Huynh, Ngoc, Nguyen and Thi (2020) conducted a study on Knowledge and attitude toward COVID-19 among healthcare workers at District 2 Hospital, Ho Chi Minh City. A systematic random sampling strategy was carried out and the data was collected through a self-administered questionnaire of the knowledge and attitude of healthcare workers regarding COVID-19. Descriptive analysis was reported to describe the demographic, mean knowledge and attitude score of healthcare workers. Inferential statistics including t-test, ANOVA and Spearman's correlation were used to evaluate the relationship between study variables. Results: A total of 327 eligible healthcare workers had a mean score of knowledge and attitude of  $8.17 \pm 1.3$  (range 4-10) and  $1.86 \pm 0.43$  (range 1-5), respectively. They showed good knowledge and a positive attitude. However, approximately two thirds of the participants knew the mode of transmission, the isolation period and treatment (67.0%, 65.8%, and 58.4%, respectively), and 82.3% and 79.8%, respectively, held positive attitude regarding the risk of personal and family members getting illness. There was a negative correlation between

knowledge scores and attitude scores ( $r=-0.21$ ,  $P<0.001$ ). Additionally, healthcare workers predominately used social media to inform themselves about COVID-19 (91.1%). Conclusions: The majority of healthcare workers had good knowledge and positive attitude toward COVID-19. However, the level of some knowledge and attitude lower than that expected for their position level towards the virus. Additional education interventions and campaigns are required for healthcare workers.

**Statement of the problem**

The outbreak of covid-19 pandemic has been a serious diabolic mystery to the world in general. This is because of the geometric death rate among countries in the world which has stirred the need for knowledge, attitudes and practices among countries to the remote cause of this pandemic. The knowledge, attitude and practice of most rural dwellers towards the existence of covid-19 has been a source for concern and worries over since the inception of covid-19 pandemic. This is so because most people are still in doubt of the existence of the diseases. It is worrisome to say that majority of people in most part of north central Nigeria feel that the emergence of covid-19 pandemic in Nigeria particularly in some part of the north central Nigeria is a scam. Personal interactions with most of them feel that the disease has not reached Nigeria talk less of the northern central. The problem has escalated because their knowledge, attitude and practices towards maintaining the precautionary measure of combating covid-19 have been very poor. Obviously, most of them feel that federal government is only using covid-19 to attract international aids for their personal gain at the expense of the masses where are being forced to sit at home. This has worsened their quest for survival as many of these people have complained of poor attitude on the part of the government in helping the masses to provide basic needs. There has also been mixed feeling regarding the figures of confirmed and death cases recorded between 19<sup>th</sup> to 26<sup>th</sup> of April 2020 as shown in Table 1:

Table 1: Confirmed new cases and death between 19 to 28 April 2020

Date	New cases	Death
19 <sup>th</sup> April 2020	85	2
20 <sup>th</sup> April 2020	35	1
21 <sup>st</sup> April 2020	117	3
22 <sup>nd</sup> April 2020	91	3
23 <sup>rd</sup> April 2020	108	3
24 <sup>th</sup> April 2020	114	1
25 <sup>th</sup> April 2020	85	2
26 <sup>th</sup> April 2020	87	3
27 <sup>th</sup> April 2020	91	5
28 <sup>th</sup> April 2020	64	-
29 <sup>TH</sup> APRIL 2020	-	-
30 <sup>TH</sup> APRIL 2020	196	7
1 <sup>ST</sup> MAY	204	7

Source: Nigeria Centre for Disease Control (NCDC) April, 2020

Looking at the persistent increase in cases coupled with the death rate within this period, one begins to wonder the remote and immediate cause of the pandemic. It may be also pose alarming

death if studies are not conducted on this trend. The problem may have worsened due to the fact that most people lack the required knowledge, attitudes and practices of the existence of covid-19. The problem of this study is: what are the knowledge, attitudes and practices towards covid-19 pandemic among rural dwellers in North Central Nigeria?

### **Research questions**

The following research questions were formulated to guide this study

1. What are the response percentages of rural dwellers in terms of gender, location and educational attainment on the existence of covid-19 in north central Nigeria?
2. How do rural dwellers display knowledge of the existence covid-19 in north central, Nigeria?
3. What are the attitudes of rural dwellers towards covid-19 pandemic in north central, Nigeria?
4. What are the practices of rural dwellers towards covid-19 pandemic in north central, Nigeria?

### **RESEARCH METHODS**

The study design was a descriptive survey research design. The descriptive survey research design is considered most appropriate for this study because it allows the researcher to make inference about the population by selecting and studying the sample for the study. The population of this study comprised 5879 dwellers in North central Nigeria North central Nigeria namely Kogi, Niger and Benue state A sample of 2,891 respondents were purposively drawn for the study. The study utilized a researcher's developed instrument entitled "Knowledge, Attitude And Practice Questionnaire (KAPQ)" The KAPQ was validated by experts in Measurement and Evaluation. The reliability estimate of the instrument was established through trial testing of the instrument which was administered to 102 respondents who were not part of the final study. Cronbach Alpha reliability method was used to test the internal consistency of the instrument and the reliability index ranged from 0.79 to 0.83 respectively. The statistical analysis used was descriptive statistics (simple percentages and bar charts).

### **RESULTS**

The results emanating from this study were presented research question by research questions as presented below:

#### **Research question one:**

What are the response percentages of rural dwellers in terms of gender, location and educational background on the existence of covid-19 in north central Nigeria? To answer this question the simple percentage and bar chart were employed as presented in Table 2.

Table 2: Demographic Characteristics of the respondents (N=2891)

Demographic variables		Number	Percentage (%)
Gender of the respondents	Male	1562	54.03
	Female	1329	45.97
Respondent location	Urban	1236	42.75
	Rural	1655	57.25
Educational attainment of respondents	No formal education	1,022	35.35
	Primary education	951	32.90
	Secondary education	671	23.21
	Tertiary education	247	8.54

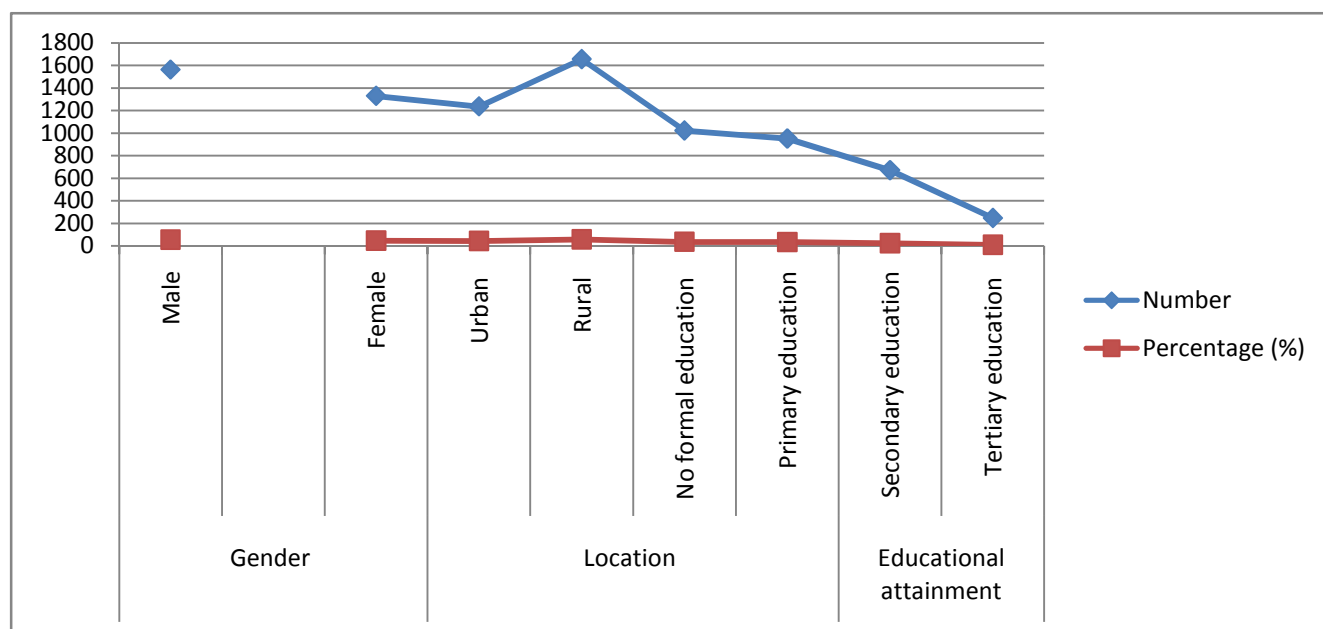


Figure 2: line graph of Demographic Characteristics of the respondents

From the demographic data analysis in Table 2, it is evident that with gender, male are 1562 (54.03%), while female are 1329 (45.97%). Thus male dominated the study area. For location, those in urban area are 1236 (42.73%), while those in rural area are 1655 (57.25%), thus rural dwellers dominated the study. with educational background, those with no formal education dominated the study with 1022 (35.35%, which was followed by those with primary education 951 (32.90%) while



those with tertiary education are the least with 247 (8.54%). a breakdown of the response percentages of rural dwellers in terms of gender, location and educational are presented in figure 1.

**Research question two:** How do rural dwellers display knowledge of the existence covid-19 in north central, Nigeria? To answer this question the simple percentage and bar chart were employed as presented in Table 3.

Table 3: Descriptive statistics of rural dwellers knowledge of the existence covid-19 in North central, Nigeria (N=2,891)

<b>Knowledge of rural dwellers towards covid-19</b>	Agree	%	Disagree	%
I have a strong belief that covid-19 is a scam on the part of the government	2032	70.29	859	29.71
I don't feel that of covid-19 is in Nigeria	2789	96.47	102	3.53
I will see the doctor immediately if I have clinical symptoms like fever, fatigue, dry cough.	2460	85.09	431	14.91
I strongly believe that there is no victim of covid-19 in North-central Nigeria	2688	92.98	203	7.02
I maintain close social relationship with all irrespective of the danger associated with covid-19	2752	95.19	139	4.81
I disagree that hand sanitizer is not a preventive measure of covid-19	1633	56.49	258	8.92

Table 3 presents the descriptive statistics of rural dwellers knowledge of the existence covid-19 in North central, Nigeria. 2032 (70.29) agree that they have a strong believe that covid-19 is a scam on the part of the government while the remaining 857 (29.71%) disagreed, it was also revealed that 2789 (96.47%) said they don't feel that covid-19 is in Nigeria, while only 102 (3.53%) disagreed. a total of 2460 (85.09%) said that they will see the doctor immediately if I have clinical symptoms like fever, fatigue, dry cough, while 431 (14.91%) disagreed. 2688 (92.98%) agreed believe that there is no victim with covid-2019 in north central Nigeria while the remaining 203(7.02%) disagreed. it was also revealed that 2752 (95.19%) agreed that they maintain close social relationship with all irrespective of the danger associated with covid-19, while 139 (4.81%) disagreed. Finally, 1633 (56.49%) agreed that they don't think hand sanitizer is a preventive measure of covid-19 while 258 (8.92%) disagreed. The result is also presented in figure 2

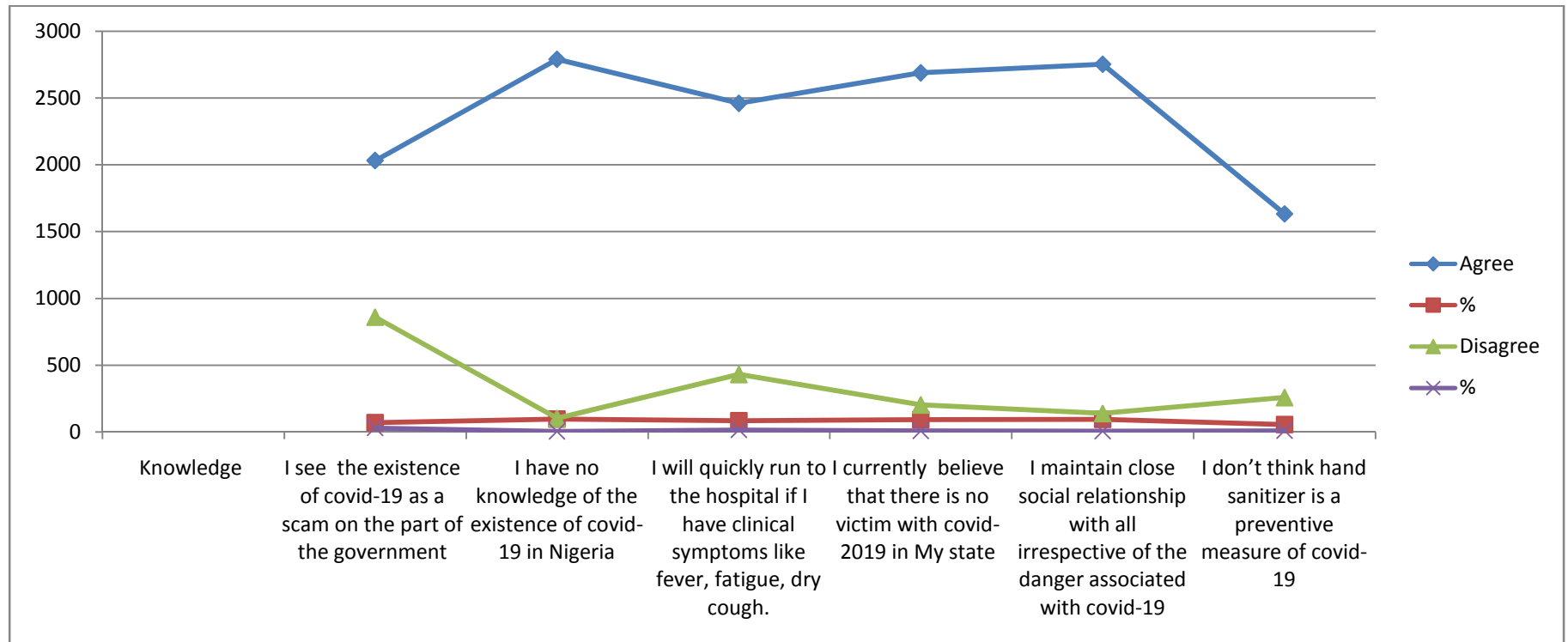


Figure 3: Line graph of rural dwellers display knowledge of the existence covid-19 in north central, Nigeria

**Research Question Three:** What are the attitudes of rural dwellers towards covid-19 pandemic in North central, Nigeria? To answer this question the simple percentage and bar chart were employed as presented in Table 4.

Table 4: Descriptive statistics of rural dwellers attitude towards the existence covid-19 in North central, Nigeria (N=2,891)

<b>Attitude of rural dwellers towards covid-19</b>	Agree	%	Disagree	%
I have a positive mindset that covid-19 does not exist in the Nigeria	2766	95.68	125	4.32
I am too sure that Nigeria can only overcome the dangers of Covid-19 through foreign aids	2801	96.89	90	3.11
The out brake of covid-19 has made life very difficult	2574	89.03	317	10.97
I feel that the statistical records presented on Covid-19 victims is fake	2800	96.85	91	3.15
I am of the position that lockdown is not the solution to curbing covi-19	2466	85.30	425	14.7
The government shows no concern of the associated with the lockdown	2740	94.78	151	5.22

Table 4 reveal the descriptive statistical analysis with rural dwellers attitude towards the existence covid-19 in North central, Nigeria while 2766 (95.68%) agreed they have a positive mindset that covid-19 does not exist in the Nigeria while 125 (4.32%) disagreed that they don't have a positive mindset that covid-19 does not exist in the Nigeria. again, 2801 (96.89%) agreed that they are too sure that Nigeria can only overcome the dangers of Covid-19 through foreign aids while 90 (3.11%) disagreed. 2574 (89.03%) agreed that the out brake of covid-19 has made life very difficult, while 317 (10.97%) disagreed. Similarly, 2800 (96.85%) agreed that they feel that the statistical records presented on Covid-19 victims is fake while 91 (3.15%) disagreed. it was also revealed that 2466 (85.30%) agreed of the position that lockdown is not the solution to curbing covi-19 while 425 (14.7%) disagreed. Finally, 2740 (94.78%) agreed that the government shows no concern of the associated problems with the lockdown, while 151 (5.22%) disagreed.

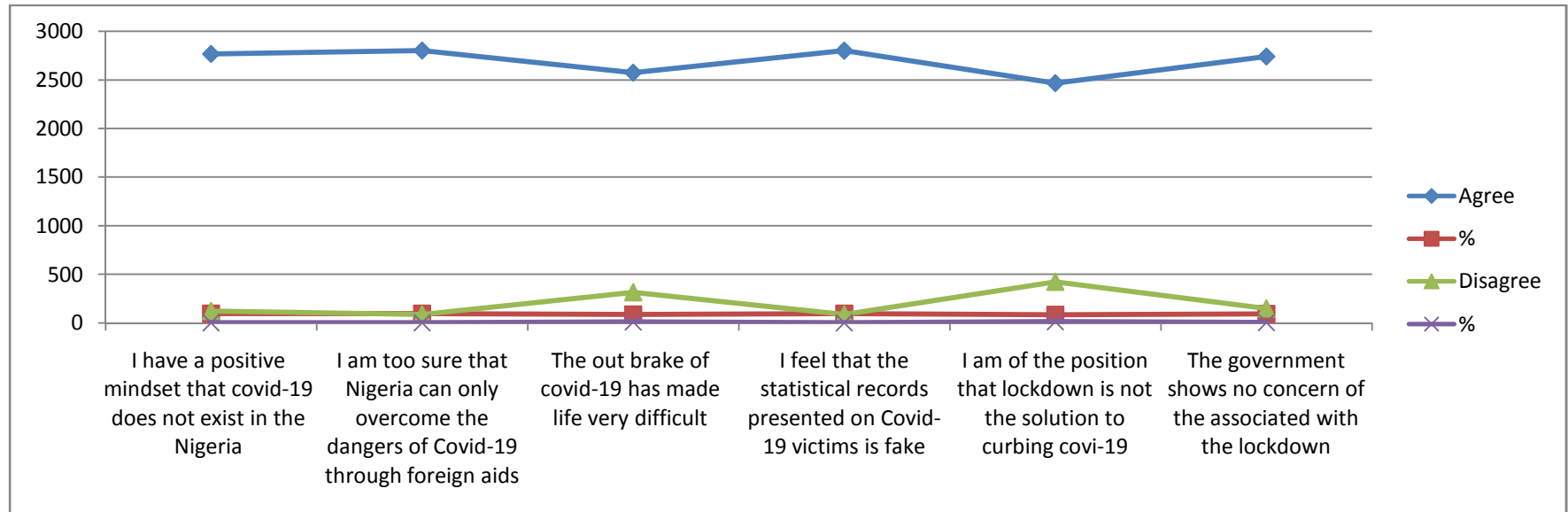


Figure 3: line graph of rural dwellers display attitude of the existence covid-19 in north central, Nigeria

**Research Question four:** What are the practices of rural dwellers towards covid-19 pandemic in north central, Nigeria? To answer this question the simple percentage and bar chart were employed as presented in Table 5.

Table 5: Descriptive statistics of rural dwellers practices of the existence covid-19 in North central, Nigeria (N=2,891)

<b>Practices of rural dweller towards covid-19</b>	Agree	%	Disagree	%
Sanitizing my hands before eating is a waste of time to me	2573	89.00	318	11.00
I have never practice social distancing during this period of covid 19	2744	94.92	147	5.08
I find it difficult to shake hands with my others when greeting	105	3.63	2706	96.37
I am always disrobed seeing people crowded in this era of covid-19 pandemic	2523	87.27	368	12.73
Seeing health worker attending to suspected covid1-19 victims on time make me feel relaxed	56	1.94	2835	98.06
I have practice using face marks whenever I am going out	2	0.07	2889	99.93

Table 5 shows practices of rural dweller towards covid-19 in North central Nigeria, while 2573 (89.00%) agreed that they don't adopt hand sanitizing before eating while 318 (11.00%) disagreed. 2744 are of the view that they have never practice social distancing while 147 (5.08%) disagreed. 105 (3.63%) said they find it difficult to shake hands when greeting while 2706 (96.37%) disagreed. 2523 (87.27%) agreed that they always feel disturbed seeing people crowded in this era of covid-19 pandemic while 368 (12.73%) disagreed. 56 (1.94%) agreed that seeing health worker attending to suspected covid1-19 victims on time make the feel relaxed while 2835 (98.06%) disagreed. Finally, 2 (0.07%) agreed that they have practice using face marks whenever I am going out while 2889 (99.93%) disagreed.

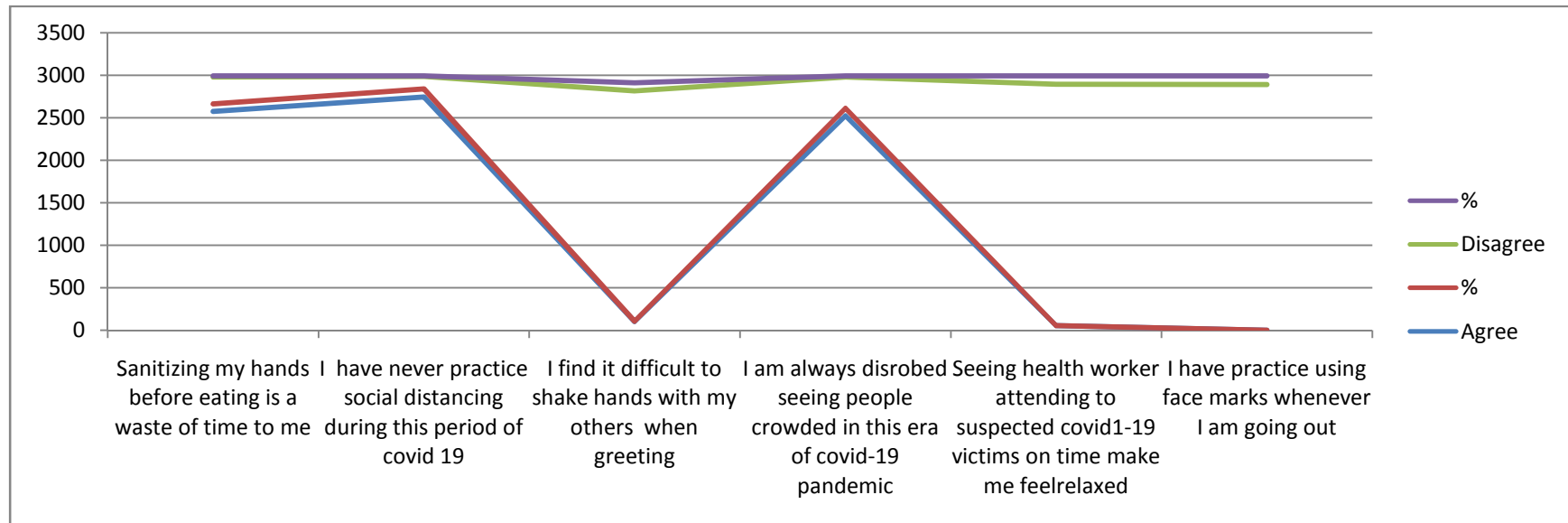


Figure 5: Line graph of rural dwellers display practices of the existence covid-19 in north central, Nigeria

## **Discussion of findings**

The result emanation from the finding showed that most rural dwellers display poor knowledge, attitude and practices of the existence covid-19 in north central, Nigeria. The reason could be attribution to lack of awareness on the dangers of covid-19 pandemic. Also, the poor knowledge, attitude and practices may be due to the rural nature where they dwell as most of he lack good roads, water supply and above all poor means of communication which may affect their attitude towards covid-19 pandemic. The present finding agrees with that by Akshaya, Ali, Jamal, Mohammad, Ashrafi and Deepak (2020) 61%, of HCWs had poor knowledge of its transmission (61%) and symptom onset (63.6%) to COVID-19 prevention and control. Also, Huynh, Ngoc, Nguyen and Thi (2020) study found a negative correlation between knowledge scores and attitude scores ( $r=-0.21$ ,  $P<0.001$ ). Additionally, healthcare workers predominately used social media to inform themselves about COVID-19 (91.1%). the study revealed that majority of healthcare workers had good knowledge and positive attitude toward COVID-19. However, the level of some knowledge and attitude lower than that expected for their position level towards the virus. Additional education interventions and campaigns are required for healthcare workers. However, the present finding disagree with the result of Bao-Liang, Wei, Hai-Mei, Qian-Qian, Xiao-Ge, Wen-Tian and Yi (2020) who found that most Chinese residents of a relatively high socioeconomic status, in particular women, are knowledgeable about COVID-19, hold optimistic attitudes, and have appropriate practices towards COVID-19. Health education programs aimed at improving COVID-19 knowledge are helpful for Chinese residents to hold optimistic attitudes and maintain appropriate practices.

## **Challenges of the study**

The study deemed it necessary to outline some challenges faced during the study which caused some limitation to the scope of the study. Thus;

Firstly, there was the problem of reaching out to the respondents. This was due to the lockdown. To this end the research study was limited to only few villages specifically areas where the research has assistants that aided in the administration of the questionnaire.

Secondly, there was the challenge of time. The findings of the study was supposed to be published on time but the lockdown and financial hardship at that period caused delay in publishing the findings since people were not allowed to travelled.

Again, the research scope posed issues as the coverage was too large coupled with difficulties in reaching the target respondents on time. Also, most study used the entire north central but the present study was limited to Benue, Kogi and Niger states. This has also posed a limitation to the generalization of the present research studies.

## **Conclusion**

The out brake of covid-19 has been an issue to all and sundry in the world. This underscores the need for research undertakings in all fields in response to the outbreak of covid-19. The present study explored knowledge, attitudes and practices most especially among rural dwellers so as to enhance their orientation towards the existence of covid-19. The paper pinpoints the need for more focus on individual in the rural areas across all the states of the country. It was also concluded that most people particularly those in rural centers across the country still find it difficult to accept the fact that covid-19 is real and has pose a great threat to individual lives. Re-orientating the masses most especially those in the villages who may not have been schooled on the possible way to prevent being contacted with the dreaded diseases called corona virus especially in their attitude and practices. Again, the study

further exposed the need for the government to pay more attention to the rural areas in the country other than major urban centers. Finally, to a layman and other in-experienced researchers, it may seem as if the present study is a direct replication of other studies based on the topic. A close look at the content of the present research study will disapprove this assertion. A close examination on the population, sample, design, instrumentation, statistical tool used and recommendations posed by the present study differs from other related studies. However, the present study acknowledges other study due to the bulk of exiting literature that serves as a guide to the present study.

### **Recommendations**

Based on the findings of the study, the following recommendations were drawn

1. The idea of lockdown is good but it must be accompanied with adequate provision of food and essential household requirements (basic needs) for everybody. This will help to reduce suffering on the part of the teeming masses who may be forced to revolt especially when they are starving at home.
2. Adequate one-on-one orientation exercise should be given to all citizens in Nigeria. More emphasis should be laid in conducting in house seminar, on the knowledge, attitude and practices toward covid-19 in different states in Nigeria
4. Training of health offices coupled with dissemination of free manual on covid-19 to citizens which will help to build their belief and attitude toward the existence of the “octopus” called covid-19 in urban and rural centers in all the 36 states in Nigeria.

### **Educational implication**

An understanding of research in the educational implication of Covid-19 pandemic is crucial in all area of knowledge irrespective of the discipline one is affiliated to. In the educational environment, The study of covid-19 can enhanced knowledge, promote awareness and foster proactive measures of reducing the virus in the academic environment. Thus, the study encouraged further research studies on the measures of reducing the spread of the virus. The psychologists and managers in the educational environment stand to use the study to educate the masses on the psychological implication of the virus to those who have the virus and to those who are scared of the virus. The study will also give a better understanding of the place of counseling on how to maintain social distancing. This implies that the ability to undertake researchers on the educational implication of covid-19 will help in finding the supportive, tools, and resources that they need to aid their studies during this rapidly evolving situation and can elevate research standards and enable easier and better data sharing.

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