

RESEARCH ARTICLE

Knowledge, Attitude, Practice and Perception of Covid-19 among a Cross-section of Nsukka Residents

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Abstract

Coronavirus disease 2019 (COVID-19) is a highly transmissible and pathogenic infection caused by SARS-CoV-2, first identified in Wuhan, China, and later spread globally. This study assessed the knowledge, attitude, practice, and perception (KAP) of COVID-19 among Nsukka residents, including staff and students of the University of Nigeria, Nsukka (UNN), and some members of the general public. A descriptive cross-sectional study involving 500 participants aged 18 and above was conducted using a pre-validated, 42-item self-administered questionnaire. The data were analyzed using descriptive statistics, frequencies, percentages, chi-square, and means with IBM SPSS version 25. Of 550 questionnaires distributed, all were completed and returned, yielding a 100% response rate. Among the 500 respondents, females (51.2%) slightly outnumbered males (48.2%). Most participants were aged 21 (66.1%), single (73.1%), and Christians (94.2%). Educationally, 83.6% had completed secondary school, while 8.7% had post-secondary education. Knowledge of COVID-19 was high, especially in responses to knowledge-based questions (K1–K11). Attitudes were largely positive, possibly due to participants' educational backgrounds. Many feared contact with symptomatic individuals and were cautious about food safety (A1–A3). Preventive practices such as handwashing, sanitizing, and maintaining hygiene were widely adopted. Most respondents acknowledged COVID-19's significant impact on their routines, education, finances, and social lives. Overall, the respondents demonstrated strong knowledge and adherence to preventive practices. While the majority showed responsible attitudes and behaviors toward COVID-19, a minority still displayed gaps in awareness and compliance.

Keywords: COVID-19, Prevention, Novel Disease, Understanding, Belief.

1. Introduction

Coronaviruses belong to the family Coronaviridae in the order Nidovirales^{1,2}. They are enveloped viruses with positive-sense single-stranded RNA genomes, measuring 80-160 nm in diameter^{1,3}. The genomic

size ranges from 22 to 36 kilobases, the largest among RNA viruses^{1,3}. Club-shaped glycoprotein spikes in the envelope give the viruses a crownlike, or coronal, appearance. The nucleocapsid, made up of a protein shell known as a capsid and containing the viral nucleic acids, is helical or tubular^{1,2}.

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Coronaviruses (CoVs) cause respiratory and gastrointestinal diseases in various species, including humans⁴. CoVs are classified into four genera: Alpha-, Beta-, Gamma-, and Deltacoronavirus⁴. Notable human CoVs include SARS-CoV, MERS-CoV, and SARS-CoV-2, which have caused significant outbreaks in recent years⁵. These viruses typically present with symptoms such as fever, cough, and difficulty breathing⁶. Transmission occurs through aerosols, direct/indirect contact, and during medical procedures⁴.

COVID-19, caused by SARS-CoV-2, emerged in Wuhan, China, and rapidly spread globally⁷⁻¹⁰. The virus is highly transmissible and pathogenic, with confirmed human-to-human transmission^{7,8}. Genomic analysis suggests bats as the likely primary reservoir due to phylogenetic similarities with SARS-like bat viruses, though the intermediate source remains unknown^{7,9}. As of the papers' publication dates, no clinically approved antiviral drugs or vaccines were available for COVID-19^{7,8}. However, some broad-spectrum antiviral drugs evaluated in clinical trials showed promising results in clinical recovery^{7,9}.

The COVID-19 pandemic, caused by SARS-CoV-2, has rapidly spread worldwide since its emergence in December 2019¹¹. As of May 17, 2020, over 4.7 million cases and 316,520 deaths were reported globally¹². Prevention measures recommended by WHO include social distancing, hand hygiene, wearing masks, and quarantine^{13,14}. Lockdowns and travel restrictions have been implemented to control the spread¹³. Experimental treatments being researched include Remdesivir, Chloroquine, and Lopinavir/Ritonavir¹². The pandemic's rapid growth emphasizes the importance of adhering to preventive measures to minimize transmission¹². Furthermore, studies examined COVID-19 knowledge, attitudes, and practices (KAP) among Nigerian populations. In Southwest Nigeria, high levels of knowledge (96.1%), positive attitudes (99.3%), and good practices (77.3%) were observed, with age and education associated with prevention practices¹⁵. Similarly, in Onitsha, Southeastern Nigeria, moderate to high KAP scores were reported, with 60.7% having high knowledge, 56.4% good attitudes, and 53.6% good practices¹⁶. Education level was positively correlated with KAP scores. In rural Akwa-Ibom State, good knowledge (62.6%), positive attitudes (85.9%), good perceptions (75.0%), and good practices (77.9%) were observed, with practice significantly associated with knowledge and perception¹⁷. Common information sources included radio and religious organizations. These findings suggest generally good COVID-19 KAP among Nigerian populations, with education playing a

crucial role in improving understanding and adherence to preventive measures, however, studies assessing rural areas are limited. Thence, the objective of this study was to carry out a survey on the knowledge, attitude, practice and perception regarding COVID-19 among students of University of Nigeria, Nsukka, Staff of University of Nigeria, Nsukka and Nsukka population.

2. Materials and Methods

2.1 Study Design

The design is a questionnaire-based cross-sectional study. A self-completion questionnaire was prepared and shared among different people from different ethnic groups residing in Nsukka urban. About 550 questionnaires were randomly distributed, but only 500 people completely filled out their own and were used for the study.

2.2 Area of Study

The public employed for this study was Nsukka residential area which is located in Nsukka Local Government Area in Enugu State. It is a commercial city inhabited by different kinds of people from different ethnic groups in Nigeria and some foreigners. University of Nigeria is located in Nsukka and that attracted different Nigerians and non-Nigerians to reside in Nsukka both for educational, business and employment purposes. However, Nsukka land is blessed with fertile land too and that contributed to the massive inhabitation by different agriculturists, including several banks located in Nsukka municipal city. As a result of people from different ethnic groups living in Nsukka, it was used as a case study, using inhabitants to generate information to be used in the assessment of knowledge, attitude, practice and perception of the public towards Covid-19 disease.

2.3 Study Instrument

A questionnaire was used for the data collection. It was a 42-item structured questionnaire with mainly closed-ended questions and was validated by three lecturers. The questionnaire was designed to obtain information on the respondents' personal data, knowledge, attitude, practice, and perception of COVID-19 disease. The questionnaire used in this study comprises of the following:

2.3.1 Demographic Data

This section requested biographic information regarding gender, age, sex, marital status, religion, education, occupation, and residence. This information enabled a better understanding of how the factors affects the respondent's knowledge, attitude, practice and perception towards Covid-19.

2.3.2 General Knowledge Questions

This part consists of 11 questions, which explored the populations' knowledge of Covid-19 disease.

2.3.3 Attitude Questions

This part consists of 7 questions focused on the respondents' attitude as regarding Covid-19

2.3.4 Practice Questions

It focused on the respondent's practices towards Covid-19 and consists of 10 questions.

2.3.5 Questions on the Perception of the Impact of Covid-19

This section tries to ascertain what the respondents feel about Covid-19; for instance, how it has affected their studies, travels, and spending time with friends and family.

2.4 Sampling Method

A random sampling method was used to determine the distribution of the copies of the questionnaires. With this, the distribution of the questionnaire cut across the different areas of Nsukka urban. However, to facilitate the distribution of the questionnaire, people in the streets, churches, lodges, offices, and classrooms were chosen at random.

2.5 Data Analysis

The data were coded and entered in Microsoft Excel and then analyzed using IBM Statistical Package for the Social Sciences (SPSS) version 25.0. The data were analyzed using descriptive statistics, frequency of occurrence, percentage, chi-square, and mean.

Table 1. Demographic data of respondents

Demographics	Frequency	Percentage
Age (years)		
18-20	14	2.8
21-30	326	66.1
31-40	51	10.3
41-50	71	14.4
>50	31	6.3
Total	493	100.0
Sex		
Male	243	48.8
Female	255	51.2
Total	498	100.0
Marital status		
Single	364	73.1
Married	106	21.3
Divorced	8	1.6
Widowed	20	4.0

3. Results

Out of the 500 respondents, the number of females was greater than that of males. That is, 255(51.2%) were females while 243(48.2%) were males (Table 1). The age distribution shows that 14(2.8%) falls within 18-20; 326(66.1%) falls within the age of 21-30; 51(10.3%) falls within the age of 31-40; 71(14.4%) falls within the age of 41-50; 31(6.3%) falls within the age of 50 and above. Also, in the marital status, 364(73.1%) were single and 106(21.3%) were married; 8(1.6%) were divorced or separated whereas 20(4.0%) were widows. On religion, 467(94.2%) were Christians and 21(4.2%) were traditional worshippers. Though 2(0.4%) were Islam's due to the fact that Nsukka town itself comprises of different people from different religious backgrounds, data from respondents from other religious backgrounds such as realism, Judaism and likes although not mentioned in the questionnaire were also captured and has a frequency and percentage amounting to 6(1.2%). However, a greater number of the respondents had secondary education as can be seen in their frequency and valid percentage of 404(83.6%); whereas, post-secondary education holders fall within 42(8.7%); respondents with primary education and those with no formal education had frequencies and valid percentages of 24(5.0%) and 13(2.7%) respectively. The respondent's occupation was as follows: Students had 332(67.1%), Civil servants 121(24.4%), respondents who are self-employed had frequency of 30 and a valid percentage of 6.1%, the laborers among them 8(1.6 %) whereas retirees 4(0.8%). Respondents who live in the rural and urban areas had frequencies and valid percentages of 121(24.6%) and rural 369 (75.0%) respectively.

Total	498	100.0
Religion		
Christianity	467	94.2
Traditional	21	4.2
Islam	2	0.4
Others	6	1.2
Total	496	100.0
Education level		
No formal education	13	2.7
Primary education	24	5.0
Secondary education	404	83.6
Post- secondary education	42	8.7
Total	483	100.0
Occupation		
Student	332	67.1
Civil servant	121	24.4
Self-employed	30	6.1
Laborer	8	1.6
Retired	4	0.8
Total	495	100.0
Residence		
Rural	121	24.6
Urban	369	75.0
Total	490	100.0

3.1 Respondents level of Knowledge about Covid-19

From the results in the table below, it can be deduced that the level of knowledge of the public living in Nsukka about Covid-19 is encouraging (Table 2). This can be seen from the frequencies and valid percentages

[(387(77.7%), 397(79.4%), 401(80.2%), 353(70.9%), 267(53.6%), 204(41.4%), 339(69.9%), 400(80.8%), 396(79.8%), 411(82.5%)] that was obtained after analyzing the knowledge-based questions labelled K1- K11, as against their more negative (NO) and no idea responses of the same knowledge questions.

Table 2. Knowledge of the respondents about covid-19

Knowledge	Yes n (%)	no n (%)	no idea n (%)	Total n (%)
COVID-19 is a contagious disease?	387(77.7)	35(7.0)	76(15.3)	498(100)
Fever is a symptom of COVID-19?	397(79.4)	38(7.6)	65(13)	500(100)
Cough is a symptom of COVID-19?	401(80.2)	34(6.8)	65(13.0)	500(100)
Sore throat is a symptom of COVID-19?	353(70.9)	57(11.4)	88(17.7)	498(100)
Diarrhea or Constipation be a symptom of COVID-19?	204(41.4)	131(26.6)	158(32.0)	493(100)
Headache is a symptom of COVID-19?	339(69.9)	55(11.3)	91(18.8)	485(100)
It is good to have contact with individuals suspected to be infected with COVID-19	400(80.8)	40(8.1)	55(11.1)	495(100)
The disease can be transmitted directly through cough?	394(79.8)	44(8.9)	56(11.3)	494(100)
Can the disease be transmitted directly through contact with infected surfaces?	396(79.8)	45(9.1)	55(11.1)	496(100)
Is the disease more dangerous in people with weakened immune system?	411(82.5)	32(6.4)	55(11.0)	498(100)

3.2 Respondents Attitude towards Covid-19

Furthermore, the respondents' attitude towards Covid-19 was very encouraging (Table 3). This may be attributed to the fact that the majority of

the respondents who complied with this study are students within the university environment who were also knowledgeable about COVID-19 disease. This is evident when some of the questions used to ascertain

the attitude of the respondent towards the disease in question is looked at; thus, questions like A1, A2 and A3 for example (I am afraid to contact with people who have flu symptoms, I am afraid to eat outside

food from hawker centers, I am afraid of eating raw food, had frequencies and valid percentages) of 191(38.2%), 201(40.2%), 174(35.0) respectively accounting for their “OFTEN” responses.

Table 3. Attitude of respondents towards covid-19

Attitude	Never n (%)	Rarely n (%)	Often n (%)	Every time n (%)	Total n (%)
I am afraid to contact with people who have flu symptoms	52(10.4)	101(20.2)	191(38.2)	156(31.2)	500(100)
I am afraid to eat outside food from hawker centers	56(11.2)	131(26.2)	201(40.2)	112(22.4)	500(100)
I am afraid of eating raw food	56(11.3)	91(18.3)	174(35)	176(35.4)	497(100)
I am afraid of eating animal's meat	65(13.3)	100(20.4)	152(31.0)	173(35.3)	490(100)
I am afraid to contact my friends and relatives who just got back from overseas	126(25.3)	146(29.3)	147(29.5)	79(15.9)	498(100)
I am afraid to go to crowded places	81(16.2)	252(50.5)	166(33.3)	0(0)	499(100)
I avoid taking public transport.	137(27.6)	203(40.8)	157(31.6)	0(0)	497(100)

3.3 Respondents level of practice towards Covid-19

Responses from the respondents' practices towards preventing and spreading Covid-19 showed that they take so many precautions seriously to minimize the spread and contraction of Covid-19. This could be clearly seen from some of the questions that was asked the respondents to ascertain how they can

be able to curtail the spread and contracting of the novel disease; some of which are: I frequently was my hands 385(77.8%), I pay more attention to my personal hygiene than usual 403(80.6%), and I use hand sanitizers 387(77.6%), which were seen in the more positive YES responses than their “NO” and “OCCASIONALLY” responses (Table 4).

Table 4. Practice of the respondents towards prevention of contracting and spreading covid-19

Practice	Yes n (%)	no n (%)	Occasionally n (%)	Total n (%)
I am afraid of going out of my home	172(34.4)	213(42.6)	115(23.0)	500(100.0)
I avoid consuming outdoor food	205(41.2)	170(34.1)	123(24.7)	498(100.0)
I avoid handshakes, hugging and kissing	195(39.1)	210(42.1)	94(18.8)	499(100.0)
I avoid public transport	222(44.6)	177(35.5)	99(19.9)	498(100.0)
I frequently wash my hands	385(77.8)	55(11.1)	55(11.1)	495(100.0)
I pay more attention to my personal hygiene than usual	403(80.6)	50(10.0)	47(9.8)	500(100.0)
I take vitamin supplements	270(54.1)	133(26.7)	96(19.2)	499(100.0)
I avoid going to work or school	134(26.8)	296(59.2)	70(14.0)	500(100.0)
I use herbal products and traditional medicines	121(24.2)	315(63.1)	63(12.6)	499(100.0)
I use hand sanitizers	387(77.6)	49(9.8)	63(12.6)	499(100.0)

3.4 Respondents perception about Covid-19

Most of the respondents concurs in the section where questions pertaining the perception of the impact of Covid-19 that the outbreak has affected their daily routine, their study, their finances, and has restricted

their leisure time of meeting their friends and relatives in great extent (Table 5). The above assertion can be vividly seen from the frequencies and valid percentages related to the questions labeled PI-231 (46.4%), PI2-190(38.2%), PI3-224(45.0%) and PI7-218(43.8%), of the questionnaire.

Table 5. Perception of impact of covid-19 on the individual

Perception	great extent n (%)	moderately n (%)	very little n (%)	not at all n (%)	total n (%)
The covid-19 outbreak has affected my daily routine	231(46.4)	151(30.3)	83(16.6)	33(6.6)	498(100.0)
The covid-19 outbreak has affected my study	190(38.2)	94(18.9)	91(18.3)	122(24.5)	497(100.0)

The covid-19 outbreak has affected my finances	224(45.0)	179(35.9)	59(11.8)	36(7.2)	498(100.0)
The covid-19 outbreak has affected my travel abroad	157(32.0)	129(26.3)	78(15.9)	127(25.9)	491(100)
The covid-19 has affected my study field work	138(27.7)	127(25.5)	108(21.7)	125(25.1)	498(100)
The covid-19 outbreak has affected and restricted my leisure time of meeting friends	186(37.3)	182(36.5)	70(14.0)	61(12.2)	499(100)

3.5 Association between Socio-demographic variables and knowledge of respondents

All the demographic data-gender, age, education, resident and occupation affects the knowledge,

attitude, and practices of the respondents. Of all these, gender or sex, educational status, and residence had the highest influence (Table 6a).

Table 6a. Association between Socio-demographic variables and knowledge of respondents

	Poor knowledge	Good knowledge	Total	Chi-Square(p-value)
Sex				
Male	124	119	243	13.221(0.000)
Female	89	166	255	
Total	213	285	498	
Age				
18-20	5	9	14	44.965(0.000)
21-30	115	211	326	
31-40	32	19	51	
41-50	33	38	71	
>50	28	3	31	
Total	213	280	493	
Marital status				
single	129	235	364	31.951(0.000)
married	68	38	106	
divorced	4	4	8	
widowed	13	7	20	
Total	214	284	498	
Religion				
Christianity	190	277	467	21.016(0.000)
Traditional	18	3	21	
Islam	2	0	2	
Others	1	5	6	
Total	211	285	496	
Education				
No formal education	10	3	13	21.481(0.000)
Primary education	19	5	24	
Secondary education	164	240	404	
Post-secondary education	14	28	42	
Total	207	276	483	

p-value < 0.05 is taken to be significant.

Table 6b. Association between Socio-demographic variables and knowledge of respondents

	Poor knowledge	Good knowledge	Total	Chi-Square(p-value)
Occupation				
Student	116	216	332	43.761(0.000)
Civil servant	62	59	121	
Self-employed	25	5	30	
Laborer	7	1	8	
Retired	4	0	4	
Total	214	281	495	

Residence				12.048(0.002)
Rural	69	52	121	
Urban	144	225	369	
Total	213	277	490	

Female respondents showed good knowledge than males. Greater percentage of students also showed good knowledge as well as people residing in the urban area of Nsukka. This indicates the amount of work that is needed to be done in terms of awareness in the rural setting so that the rural dwellers can be knowledgeable about Covid-19 disease (Table 6b).

residence had much influence on the attitude of their attitude. As such, female respondents showed good attitude, whereas respondents within the age range of 31 and above had good attitude about Covid-19. The urban residents also showed good attitude towards the disease too (Table 7: a and b).

3.6 Association between Socio-demographic variables and Attitude of respondents

Respondent's sex, age, marital status, occupation and

Table 7a. Association between Socio-demographic variables and Attitude of respondents

	Poor attitude	Good attitude	Total	Chi-Square(p-value)
Sex				
Male	102	141	243	1.583(0.208)
female	93	162	255	
Total	195	303	498	
Age				
18-20	7	7	14	31.699(0.000)
21-30	150	176	326	
31-40	17	34	51	
41-50	8	63	71	
>50	10	21	31	
Total	192	301	493	
Marital status				
Single	167	197	364	27.750(0.000)
married	20	86	106	
divorced	1	7	8	
widowed	7	13	20	
Total	195	303	498	
Religion				
Christianity	181	286	467	5.941(0.115)
Traditional	11	10	21	
Islam	2	0	2	
Others	1	5	6	
Total	195	301	496	
Education				
No formal education	10	3	13	8.942(0.030)
Primary education	9	15	24	
Secondary education	159	245	404	
Post-secondary education	13	29	42	
Total	191	292	483	

Table 7b. Association between Socio-demographic variables and Attitude of respondents

	Poor attitude	Good attitude	Total	Chi-Square(p-value)
Occupation				
Student	156	176	332	31.656(0.000)
Civil servant	24	97	121	
Self-employed	12	18	30	
Laborer	5	3	8	
Retired	0	4	4	
Total	197	298	495	
Residence				
Rural	47	74	121	0.103(0.950)
Urban	144	225	369	
Total	191	299	490	

$p\text{-value} < 0.05$ is taken to be significant

3.7 Association between Socio-demographic variables and Practice of respondents

On practices towards curtailing the spread and contraction of covid-19, respondents of both sexes showed good practices as could be seen from the table below. As regards their ages, results from respondents within the age ranges of 31 and above showed good practices. This could be attributed to the fact that Covid-19 affects the elderly much more than the young individuals; and as such the elderly individuals took to the respective good practices that may mitigate Covid-19 spread and its contraction. It worthy to note as well that married people showed good practices as well (Table 8: a and b). This may be due to the fact that they have to put up these good

practices in order to protect their families since they are mostly the ones always fending for their families. Although education had influence on the practice of Covid-19 among these respondents used in this study, the respondents who were civil servants showed a high aspect of good practices. It is worthy to note that most of the institutions and organizations such as churches, schools, banks and private establishments encourages the use of nose masks, use of hand sanitizers and minimizes the problem of overcrowding not excluding washing of hands with running water. Not surprisingly, respondents from the urban area of the study area showed good practices than those from the rural area.

Table 8a. Association between Socio-demographic variables and Practice of respondents

		Poor practice	Total	Chi-Square(p-value)
Sex				
Male	161	82	243	0.080(0.77)
Female	172	83	255	
Total	333	165	498	
	Age			
17-20	5	9	14	40.964(0.000)
21-30	193	133	326	
31-40	43	8	51	
41-50	62	9	71	
>50	27	4	31	
Total	330	163	493	
Marital status				
Single	215	149	364	35.787(0.000)
Married	93	13	106	
Divorced	6	2	8	
Widowed	18	2	20	
Total	332	166	498	

Religion				
Christianity	311	156	467	1.966(0.579)
Traditional	13	8	21	
Islam	2	0	2	
Others	5	1	6	
Total	331	165	496	
Education				
No formal education	8	5	13	0.472(0.925)
Primary education	17	7	24	
Secondary education	271	133	404	
Post- secondary education	27	15	42	
Total	323	160	483	

Table 8b. Association between Socio-demographic variables and Practice of respondents

	Good practice	Poor practice	Total	Chi-Square(p-value)
Occupation				
Student	187	145	332	50.666(0.000)
Civil servant	110	11	121	
Self-employed	22	8	30	
Labourer	6	2	8	
Retired	4	0	4	
Total	329	166	495	

Residence				
Rural	83	38	121	0.418(0.811)
Urban	246	123	369	
Total	330	162	492	

p-value < 0.05 is taken to be significant

4. Discussion

There has been little research that documents the public knowledge, attitudes and practice regarding Covid-19 more especially in developing countries¹⁸. The current study which assessed the level of knowledge, attitude, practice and perception of Nsukka residents revealed a good KAP towards covid-19. Normally, there is always a strong association that exist between the level of knowledge about something and the attitude towards such a thing. This association between knowledge, attitude and practice, is affected by the demography of the respondent, like gender, educational status, occupation, and residential areas etc¹⁹.

Due to the fact that undergraduates were used in this study explains why the majority of the respondents were in the age bracket of 21-30 years, and thus age had a significant association with the Knowledge, attitude, and practice of the respondents. Moreover, the fact that a greater percentage of the respondents who falls within the age range of 21-30 years (see table 3.6) had good knowledge of Covid-19 disease

can be attributed to the fact that most respondents that participated in the study were residents within the university (educational) environment and are knowledgeable about Covid-19 disease. There was also a statistically significant association of gender with good knowledge of COVID-19. The findings of this study revealed that more than half of the respondents who had good knowledge of COVID-19 were females. Any general illness whose true etiology, pathophysiology, and management are well known and believed by the average female is no longer strange to the general public. This corresponded with the findings of a study among youths in China, of which more than half of the respondents who had good knowledge of COVID-19 were females²⁰. However, this was contrary with the findings of a study among populations in Asian countries (China, India and Pakistan) of which more of the respondents who had good knowledge on COVID-19 were males¹⁹ and also, with the findings of a study among Egyptians in Egypt of which the participants that had good knowledge were male respondents²¹.

More than half respondents who were educated had a good knowledge on COVID-19. This is congruent with the findings of a study among populations in Asian countries (China, India, and Pakistan) of where more of the respondents who had good knowledge of COVID-19 had a good level of education¹⁸. Two-thirds of the respondents of this study who had good knowledge of COVID-19 were single. This was in contrast with the findings of a study among populations in Asian countries (China, India, and Pakistan) of where more of the respondents who had good knowledge on COVID-19 were Married¹⁸.

Individuals within the age bracket of 21-30 exhibited better attitudes towards COVID-19 than any other group. There are significant differences in the attitude and knowledge of the respondents when compared based on the ages of the respondents. However, their level of knowledge about the disease varied according to their age. Also, almost all the respondents who participated in this study exhibited an optimistic attitude towards COVID-19. This is similar to a finding of a work in Saudi population as reported by Al-Hanawi *et al.*²², in which they reported that the Saudi population have a high level of knowledge, optimistic attitudes and good practices towards Covid-19 pandemic as a result of governmental enormous effort to prevent Covid-19 pandemic through social media and strict lockdown which includes all sectors such as tourism, restaurants, shopping malls, industries, transportation, religious centers, universities and schools, with keeping open only groceries stores, and hospitals. However, only age, sex, marital status, education, and occupation had a significant association with the respondent's attitude in the present study.

A greater percentage of the respondents showed good practices towards the disease, and also a greater percentage of the respondents had a good perception of the disease, see tables 3.4 and 3.5. This may be attributed to the fact that awareness was always on ground, through all media such as radio, Tv stations, newspapers and newsletters, as regards proper ways of maintaining personal hygiene and also the speed at which the Covid-19 pandemic is ravaging the society and affecting all sectors of the economy thereby also affecting the common Nigerian. Both the male and female respondents showed good practice towards Covid-19, as well as respondents from ages 21 and above, including married respondents too. This is similar to a result of a study in Iran, in which about 70% observed preventive measures²³. Similarly, Usman *et al.*²⁴ observed nearly 60% of preventive measures among the public of South-Western Uganda.

The current study showed a good KAP towards Covid-19 among Nsukka residents, especially staff and students, indicating that there is hope of preventing the disease from spreading. However, if undergraduates and staff with their knowledge level could be showing some levels of minor or poor attitudes and some poor practices in some areas like going to crowded places, taking public transports and avoiding handshakes, hugging and kissing, similar to the findings of the work done by Eikenberry *et al.*²⁵, in which half of the respondents reported that they never or rarely wash or disinfect their hands, one-third of the respondents did not wear a mask while going outside, then one begins to imagine what could be obtainable in rural settlements which are not even close to an academic area like the one used in this study. This clearly shows how much more work needs to be put in place to sustain the fight against the spread and contraction of Covid-19, even as the third wave is in place now.

5. Conclusion

There is a knowledge of the public about Covid-19, and this association between knowledge and attitudes is affected by the demography of the respondents, such as residential area, educational status, and occupations, including gender. Furthermore, a certain aspect of attitude scored low, and one could conclude that there is still a deficiency in the knowledge of the respondents on Covid-19 disease. This knowledge gap implies that more work needs to be done, maybe in the form of health awareness campaigns to educate and enlighten the general public more on Covid-19.

6. References

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