Knowledge, Attitude and Practices towards Covid-19 Outbreak among Residents of Ado-Odo, Ota, Ogun State, Nigeria

Akinnola OO[1]*, Olasehinde GI[1], Ogunleye BO[1], Ajayi AS[1], Onile-Ere OA[1], Oluwasola MA[1], Akinduti PA[1] and Omeje M[2]

[1]Department of Biological Sciences, Covenant University, Nigeria

[2]Department of Physics, Covenant University, Nigeria

*Corresponding author: Olayemi O Akinnola, Department of Biological Sciences, College of Science and Technology, Covenant University, KM 10, Idiroko Road, Canaanland Ota, Ogun State 112233, Nigeria, Email: ola.akinnola@covenantuniversity.edu.ng

Abstract

Coronavirus disease (COVID-19) caused by Coronavirus 2 of Severe acute respiratory syndrome (SARS-CoV-2) is one of the major pathogens that primarily target the human respiratory system.Unusual measures have been embraced to control the rapid spread of the virus. Adherence of people to the control measures put in place is affected by their knowledge, attitudes and practices (KAP) towards COVID-19. In this study, we investigated the KAP towards COVID-19 in residents of Ado-Odo, Ota, Ogun State from April 27 to May 5, 2020.A self-developed KAP questionnaire was administered and completed by 250 consenting participants. The knowledge questionnaire consisted of 21 questions regarding the clinical characteristics and prevention of COVID-19. Assessments on residents' attitudes and practices towards COVID-19 included questions on avoiding crowded environments, confidence in winning the battle against COVID-19, wearing masks when going out amongst others. The survey was completed (n=250) and analysed using descriptive statistics. The respondents included both males (49.2%) and females (50.8%) aged 16yrs and above with different levels of education. Knowledge scores significantly differed across genders, age-groups, categories of marital status, education levels. More than half (53.6%) believed that the Nigerian government is taking appropriate steps to win that battle against COVID-19. Also, 67.2% of the respondent agreed that the virus could be successfully controlled. About 33.2% of the study respondents stated that they had gone out during the on-going pandemic mostly to the local market to buy food out of which 75.9% wore a face mask as a precautionary means. The highest proportions of correct responses were for questions assessing modes of transmission and symptoms of COVID-19. It was observed that traditional media (TV/Radio) and social media (What Sapp) are the most common source of health information about COVID-19. From the findings revealed in this study, it is critical to improving the knowledge and perceptions of people to prevent the community spread of infection as the global threat of COVID-19 continues to rise.

Keywords: Coronavirus Disease; Infection; Prevention; Knowledge; Attitudes; Practices

Abbreviation: KAP: Knowledge Attitudes and Practices.

Introduction

Coronavirus disease 2019 (COVID-19) is an emerging respiratory disease that is caused by a novel virus, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The disease is highly infectious resulting in mild to severe clinical symptoms such as fever, dry cough, fatigue, sore throat, sneezing, runny nose, temporary loss of smell, and difficulty in breathing [1-6]. Following its initial detection in Wuhan, China in December 2019 the virus has spread to over 100 countries in the world. The outbreak was declared as a public health emergency of international concern by the World Health Organization in late January 2020 [7]. This virus is believed to be of zoonotic origin with evidence of animal to human and human to human transmissions [3]. Report of cases globally as of 28th of May 2020 showed that 5,864,505 had been infected and 360,325 deaths with Nigeria recording 9,009 cases with 270 death cases [8,9]. Current measures at managing disease spread include campaigns to encourage preventive behaviour such as social distancing and hand washing, compulsory isolation for persons returning from regions of high transmission, and intermittent lockdowns [10]. While these management strategies are the accepted approach, their efficacy in preventing the spread of disease is dependent on the knowledge, attitude, and practices of the people. This study investigated the knowledge, attitudes, and practices towards COVID-19 of residents in Ado-Odo Ota, Ogun State, Nigeria during the rapid rise period of the COVID-19 outbreak.

Methods

Participants

A cross-sectional survey was conducted from April 27 to May 5, a week before the lockdown was eased in Ado-Odo, Ota local government of Ogun state. A community-based survey was carried out with adequate precautionary measures which include the use of alcohol-based hand sanitizer, face mask, and social distancing. Participation was completely consensual, anonymous, and voluntary, and informed consent was obtained from all respondents. Participants had to answer a yes or no question to confirm their willingness to participate voluntarily. After consenting, the participant was directed to complete the self-report questionnaire.

Measures

The questionnaire consisted of two parts: demographics and KAP (Knowledge, Attitude, and Practices). Demographic variables included age, gender, marital status, religion, education, occupation, and place of current residence (Ado-Odo, Ota, Ogun state). The KAP section of the questionnaire was developed based on the WHO guidelines for clinical and community management of COVID-19. The KAP section of

the study questionnaire consisted of 12 questions assessing knowledge of COVID-19; 2 questions assessing attitude towards COVID-19 and 2 questions assessing practices towards COVID-19. These questions were answered on a True/False or Yes/No basis with an additional "I don't know" option. One point was awarded for every correct response to a question assessing knowledge of COVID-19 while zero point was awarded for incorrect responses. Awarded points were summed up to obtain a knowledge score.

Data Analysis

Descriptive analysis was applied to calculate frequencies and proportions. The chi-square test was used to assess the relationship between categorical variables. The difference in knowledge scores across the categories of the demographic variables were assessed using a Mann-Whitney test or a Kruskal-Wallis test. A P-value of less than 0.5 was considered statistically significant for all analysis. All analysis was performed in SPSS version 24 (IBM).

Results

Summary of Study Participants

A total of 250 participants was recruited into this study. A summary of the study respondents is presented in Table 1.

		Number	Percentage (%)
Age	16-29	126	50.4
	30-49	93	37.2
	50 and above	31	12.4
Gender	Male	122	49.2
	Female	126	50.8
Marital Status	Single	156	62.4
	Married	62	24.8
	Other	32	12.8
Religion	Christian	207	82.8
	Muslim	30	12.0
	Other	13	5.2
Education	Primary	9	3.6
	Secondary	49	19.6
	Tertiary	141	56.4
	Other	51	20.4
Occupation	Students	116	46.4
	Civil Servant	25	10.0
	Health Worker	20	8.0
	Other	89	35.6

Table 1: Demographic characteristics of study respondents. Participants were mostly females (50.8%), aged 16-29 (50.4%), 30-49 (37.2%) and 50 and above (12.4%).

Knowledge of COVID-19

Knowledge of COVID-19 was good amongst the study respondents with respondents answering an average of 8 out of 12 (66.67%) questions correctly. The highest proportion of correct responses were recorded to questions assessing modes of transmission and symptoms of COVID-19 (Table 2).

Question	Number	Percentage (%)
The main symptoms of COVID-19 are sore throat, sneezing and runny nose and temporary loss of smell, fever, coughing and difficulty in breathing.	230	92.0
To prevent the infection by COVID-19, people should avoid going to crowded places such as markets and avoid taking public transportation.	230	92.0
Like flu, COVID-19 can be transmitted from person to person, through close personal contact, contact with objects or surfaces with viral particles and touching of eyes, noses or mouths	224	89.6
Unlike common cold, stuffy nose and sneezing are less common in persons affected with the COVID-19 virus.	124	49.6
Do you think lockdown, social distancing, washing of hands and wearing of mask can prevent COVID-19?	179	71.6
There is currently no effective cure for COVID-19, but early symptoms and supportive treatment can help most patients recover from the infection	194	77.6
Not all persons with COVID-19 will develop to severe cases	187	74.8
Only those who are elderly, have chronic illness, and obese are more likely to have severe cases upon infection with COVID-19.	139	55.6
It is not necessary for children and young adults to take measures in order to prevent coronavirus infection.	162	64.8
People who have contact with someone infected with COVID-19 virus should be immediately isolated in a proper place for 14 days.	233	93.2
Eating or contacting wild animals would result in infection of COVID-19.	99	39.6
Persons with COVID-19 cannot infect others with the virus when fever is not present.	148	59.2

Table 2: Proportion of correct responses to COVID-19 knowledge questions.

The highest proportion of correct responses to the COVID-19 knowledge questions was seen among persons with a primary level of education. Female respondents and persons who were aged between 16-29 scored higher on the knowledge assessment than others. Out of all demographic variables assessed, only education was significantly associated with knowledge of COVID-19. Post hoc multiple comparisons of COVID-19 knowledge between the different levels of education revealed that persons with tertiary education were significantly more likely to answer more knowledge questions correctly as compared to persons who indicated 'other' level of education (Table 3).

Mean		Knowledge		P-value
		Standard Deviation		
Age	16-29	8.83	1.68	0.619
	30-49	8.24	2.52	
	50 and above	8.74	1.69	
Gender	Male	8.40	2.16	0.283
	Female	8.78	1.94	

Marital Status	Single	8.78	1.72	0.699
	Married	8.21	2.78	
	Other	8.47	1.78	
Religion	Christian	8.71	1.98	0.147
	Muslim	8.00	2.23	
	Other	8.23	2.52	
Education	Primary	9.22	1.20	0.017
	Secondary	8.69	1.56	
	Tertiary	8.93	1.75	
	Other	7.47	2.84	
Occupation	Students	8.88	1.88	0.073
	Civil Servant	9.00	1.83	
	Health Worker	8.40	1.85	
	Other	8.16	2.29	

Table 3: Average knowledge scores across participants demographics.

The level of threat posed by COVID-19 as perceived by respondents was correlated with an increased knowledge score. Persons who perceived COVID-19 as a high threat scored better than those who perceived it as a moderate threat or a low threat. Furthermore, persons who read more about COVID-19 were more likely to answer more questions correctly (Table 4).

Mean		Knowledge	
		Standard Deviation	
Perceived level of threat	High threat	8.94	1.95
	Moderate threat	8.81	1.53
	Low threat	8.12	2.28
How much do you read about COVID-19	A great deal	9.13	1.67
	A fair amount	8.37	1.32
	Not very much	7.90	2.84
	Nothing at all	8.19	1.94

Table 4: Perceived level of threat, curiosity and knowledge of COVID-19.

		Count	%	Knowledge
Do you think Nigeria government is taking appropriate steps to win the battle against COVID-19?	Yes	134	53.6	8.81
	No	116	46.4	8.35
Do you agree that COVID-19 will finally be successfully controlled?	Agree	168	67.2	8.86
	Disagree	41	16.4	8.17
	Don't know	41	16.4	7.93

Table 5: Optimistic Attitudes**.**

		Do you think Nigeria government is taking appropriate steps to win the battle against COVID-19?				Do you agree that COVID-19 will finally be successfully controlled?					
		Yes		No		Agree		Disagree		Don't know	
		Number	Percentage (%)	Number	Percentage (%)	Number	Percentage (%)	Number	Percentage (%)	Number	Percentage (%)
		(n)		(n)		(n)		(n)		(n)	
Age	16-29	72	57.1	54	42.9	98	77.8	14	11.1	14	11.1
	30-49	51	54.8	42	45.2	48	51.6	21	22.6	24	25.8
	50 and above	11	35.5	20	64.5	22	71	6	19.4	3	9.7
Gender	Male	58	47.5	64	52.5	81	66.4	21	17.2	20	16.4
	Female	76	60.3	50	39.7	85	67.5	20	15.9	21	16.7
Marital Status	Single	81	51.9	75	48.1	109	69.9	23	14.7	24	15.4
	Married	42	67.7	20	32.3	43	69.4	10	16.1	9	14.5
	Other	11	34.4	21	65.6	16	50	8	25	8	25
Religion	Christian	112	54.1	95	45.9	141	68.1	33	15.9	33	15.9
	Muslim	20	66.7	10	33.3	22	73.3	4	13.3	4	13.3
	Other	2	15.4	11	84.6	5	38.5	4	30.8	4	30.8
Education	Primary	5	55.6	4	44.4	8	88.9	1	11.1	0	0
	Secondary	30	61.2	19	38.8	37	75.5	8	16.3	4	8.2
	Tertiary	73	51.8	68	48.2	101	71.6	16	11.3	24	17
	Other	26	51	25	49	22	43.1	16	31.4	13	25.5
Occupation	Students	59	50.9	57	49.1	81	69.8	18	15.5	17	14.7
	Civil Servant	13	52	12	48	19	76	0	0	6	24
	Health Worker	14	70	6	30	16	80	2	10	2	10
	Other	48	53.9	41	46.1	52	58.4	21	23.6	16	18

Table 6: Attitudes towards COVID-19 by demographic variables.

		In recent days, have you gone to any crowded place?						In recent days, have you worn a mask when leaving home?			
		Yes		No		Don't Know		Yes		No	
		Number	Percentage (%)	Number	Percentage (%)	Number	Percentage (%)	Number	Percentage (%)	Number	Percentage (%)
		(n)		(n)		(n)		(n)		(n)	
Age	16-29	37	29.4	76	60.3	13	10.3	80	63.5	46	36.5
	30-49	36	38.7	50	53.8	7	7.5	58	62.4	35	37.6
	50 and above	10	32.3	20	64.5	1	3.2	20	64.5	11	35.5
Gender	Male	42	34.4	68	55.7	12	9.8	76	62.3	46	37.7

	Female	39	31	78	61.9	9	7.1	80	63.5	46	36.5
Marital Status	Single	48	30.8	96	61.5	12	7.7	92	59	64	41
	Married	23	37.1	31	50	8	12.9	47	75.8	15	24.2
	Other	12	37.5	19	59.4	1	3.1	19	59.4	13	40.6
Religion	Christian	65	31.4	124	59.9	18	8.7	129	62.3	78	37.7
	Muslim	10	33.3	17	56.7	3	10	20	66.7	10	33.3
	Other	8	61.5	5	38.5	0	0	9	69.2	4	30.8
Education	Primary	7	77.8	2	22.2	0	0	9	100	0	0
	Secondary	17	34.7	27	55.1	5	10.2	41	83.7	8	16.3
	Tertiary	49	34.8	79	56	13	9.2	80	56.7	61	43.3
	Other	10	19.6	38	74.5	3	5.9	28	54.9	23	45.1
Occupation	Students	34	29.3	72	62.1	10	8.6	65	56	51	44
	Civil Servant	10	40	15	60	0	0	16	64	9	36
	Health Worker	12	60	8	40	0	0	20	100	0	0
	Other	27	30.3	51	57.3	11	12.4	57	64	32	36

Table 7: Practices towards COVID-19 by demographic variables.

Discussion

This is one of the first studies in Nigeria reporting KAP towards COVID-19. The respondents which were predominately females showed a high level of COVID-19 knowledge, especially on the mode of transmission. Most of the participants were highly optimistic in the attitude shown towards the COVID-19 pandemic; 67.2% believed that COVID-19 would finally be successfully controlled and 53.6% had confidence that the Nigerian government has been taking appropriate steps to win the battle against COVID-19. The practices of Ado-Odo, Ota residents were commendable during this pandemic. Only 33.2% of the respondents had gone out with the primary aim of buying food from the local market and 75.9% wore a face mask when leaving the home during the rapid rise period of the COVID-19 epidemic. However, there was no statistically significant difference in the knowledge of those who used face masks and those who did not. This is probably as a result of the absence or scarcity of masks in the local community. The adherence to these strict preventive measures was a result of general populace awareness of COVID-19 and control measures implemented by the State and Federal Government of Nigeria to contain the virus. The analysis carried out on characteristics of KAP towards COVID-19 showed some demographic factors associated with KAP. This analysis also showed that 100% of health workers adhered to the preventive measures by wearing face masks, which is due to their occupation. The findings from this analysis are useful for health workers to know the right population to target for COVID-19 prevention and health education. The finding of high correct knowledge of COVID-19 in Ado-Odo, Ota residents was expected because of the daily rise in new cases of COVID-19 recorded in the state and neighbouring state which makes the COVID-19 more obvious to the populace. Adequate knowledge of the disease that caused a pandemic is required for individuals to survive in the time of the pandemic. Such knowledge makes individuals adopt the right precautionary measures which will have a positive impact on their general well-being both physically and mentally. According to the report from the research carried out by Zhong, et al. [11] among the Chinese residents at the onset of the COVID-19 epidemic, 90.8% of the Chinese residents believed that COVID-19 would finally be controlled and 97.1% had confidence that China could win the battle against COVID-19.

These figures are different from our findings on the rates of final success and confidence of winning in the battle against COVID-19. The optimistic attitude of Ado-Odo, Ota residents could be as a result of the different measures put in place by the Federal government of Nigeria and the Ogun State government to contain the spread of the virus. Some of these measures include lockdown of the state, traffic reduction, the use of face mask, and maintenance of social distancing among others. Although attitudes towards COVID-19 were optimistic, most residents took precautions to prevent infection by COVID-19 by avoiding crowded places and the use of face masks when going out into public spaces. These

findings are in agreement with previous studies such as Brug, et al. [12] Choi and Yang [13] and Hussain, et al. [14]. These authors reported that one's level of knowledge about an infectious disease can make one act in ways that can prevent infection. In spite of these, the findings of this study still showed that 33.2% of residents went to crowded places and 24.1% did not wear masks when leaving their homes. These risky behaviours were related to married female participants. This attitude could lead to further spread of the virus from mothers to the members of their family and to the entire community if not corrected.

Conclusions

The present study was able to deliver an all-inclusive examination of the knowledge, attitudes, and practices among residents of Ado-Odo, Ota towards COVID-19. The findings from this study suggest that residents of this area have an adequate level of knowledge on COVID-19 and are optimistic about overcoming the pandemic. Expectantly, with the combined efforts of Local, State, and Federal authorities and residents, Ado-Odo, Ota could be free of COVID-19 in the near future. However, as the global threat of the virus continues to advance, greater efforts by all stakeholders are needed in sensitizing the general public on measures to curb COVID-19.

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