

Original Article

KNOWLEDGE, RISK PERCEPTION, AND ATTITUDES OF NIGERIAN DENTISTS TOWARD COVID-19: PILOT STUDY

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Abstract

Background: COVID-19 is a highly communicable viral respiratory infectious disease with potential life-threatening capabilities. As caregivers, the healthcare practitioners are at risk of contracting disease.

Aim: To explore the knowledge, risk perception, and attitudes of Nigerian dentists toward COVID-19.

Material and Methods: This pilot study was a survey of 69 dentists in Nigeria using an e-questionnaire. Collected data was analysed using SPSS version 22 software.

Results: The majority (62.3%) of the respondents were within the age range of 20 – 29 years, 50.7% were males. All of the respondents had heard of COVID-19 and the most common source of information on the disease was the social media. They all knew about the cause of COVID-19 and also that the virus can be transmitted through respiratory droplets. The majority (≥76%) of them knew about the incubation period, symptoms, and safety measures to be adopted in curbing COVID-19 transmission. They all perceived COVID-19 to be highly contagious and a potential cause of respiratory failure. Amidst other findings, they all felt that it is not safe to see a COVID-19 patient without personal protective gears. Only 4 (5.8%) agreed that HIV/AIDS is better than COVID-19 by far while only 65.2% ([29+16]/69) of them indicated that they would like to help people that are infected with COVID-19.

Conclusion: This study suggests that Nigerian dentists have sufficient knowledge and high level of risk perception of COVID-19. Despite this high knowledge level, some few of them are still afraid of associating with people having the disease.

Keywords: COVID-19, Dentist, Knowledge, Attitude, Nigeria.

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INTRODUCTION

The coronavirus disease 2019, also known as COVID-19, is a highly communicable viral respiratory infectious disease with potential life-threatening capabilities.¹⁻³ The causative organism of COVID-19 is the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).⁴ SARS-CoV-2 is a single-stranded RNA virus that belongs to the family of coronaviridae and it is commonly transmitted through contact with infected respiratory droplets.^{1,3,5,6} The incubation period

of COVID-19 is 1 – 14 days while its common symptoms include fever, cough, dyspnoea, myalgia, headache, and diarrhoea.^{1,4,5} Also, severe COVID-19 can lead to serious complications such as encephalitis, acute myocardial infection, renal failure, and multi-organ failure.^{1,2,8,9}

Historically, the first case of the disease was first reported in a wet market in the city of Wuhan, Hubei Province, China.¹⁰ From China, the viral infection had spread to other countries.¹⁰ As at May 13, 2020, a total of 4, 170,424

confirmed cases and 287,399 death cases of COVID-19 had been recorded globally, respectively.¹¹ Also, in Nigeria, a total of 4,787 people had been confirmed to have COVID-19 disease, of which 3.3% (n=158) of them died as a result of the disease, as at May 13, 2020.¹²

As earlier mentioned, COVID-19 is a communicable disease that is contracted via mucosal contact with COVID-19-infected respiratory droplet(s).^{1,5,7} This implies that any activity that increases one's exposure to other persons' respiratory droplets increases one's likelihood of contracting the disease. However, some professional practice involves very close physical contact with clients; examples of such professions include nursing, barbing, medicine, and dentistry.

Just like a wild fire, the rate at which the disease is spreading in Nigeria is very alarming and worrisome.¹² Focusing on the dental profession in Nigeria, the dentists are a very high-risk group when it comes to COVID-19 transmission.¹³ This is so because they commonly operate on the mouth, and sometimes the nose – the two body outlets for respiratory droplets. A way of preventing patient-to-dentist transmission of the disease is by the use of personal protective equipment (PPE),¹³ including head gears, face masks, face shields, goggles, N95 respirator, protective gowns, and hand gloves. However, despite the high virulence rate of coronavirus, no published Nigerian study, to the best of the authors' knowledge, had been conducted to explore the knowledge, risk perception, and attitudes of Nigerian dentists toward COVID-19.

Furthermore, there are global concerns about the attitudes and behaviours exhibited by the lay public towards people suspected or confirmed to have COVID-19.¹⁴ Of these attitudes and behaviours, one of the most worrisome of them is that related to stigmatization.¹⁴ Recently, there had been reports of stigmatization associated with COVID-19 among the lay public in some parts of the world.^{14,15}

Aims

This study aims to explore the knowledge, risk perception, and attitudes of Nigerian dentists toward COVID-19.

MATERIAL AND METHODS

This study was a descriptive cross-sectional pilot study surveying a random sample of 69 dentists in Nigeria, online.

The study tool was a piloted anonymous e-questionnaire (Google Form) which was developed from literatures written on: (i) knowledge, attitudes, and practices of health professionals and other population groups on COVID-19 and

other viral infections affecting humans;¹⁶⁻²² and (ii) origin, transmission, and pathophysiology of COVID-19.¹⁻¹⁵ The e-questionnaire had 4 sections. The first section obtained information on the socio-demographic characteristics (such as age, sex, duration of practice, and place of practice) of the participants while the second, third, and fourth sections obtained information about the participants' (as shown in Table 1); knowledge of COVID-19; risk perceptions of COVID-19; and attitudes toward COVID-19, respectively.

Being a pilot study, a convenient sample size of 69 dentists in Nigeria was used. Simple random sampling technique was used to select the study participants.

Only those participants that were identified as dentists and who were also willing to participate in the study were considered eligible to participate in the study.

From April 28, 2020, to May 12, 2020, the hyperlink of the study tool (e-questionnaire) was circulated to a total of 100 dentists via WhatsApp social media. Only 69 dentists responded to the e-questionnaire. Data collected was analysed using the SPSS version 22 software. The descriptive statistics of all variables was determined. A p-value of <0.05 was used to determine the level of statistical significance.

Ethical Considerations

Approval to conduct the study was obtained from the Department of Community Health, Aminu Musa Habib College of Health Science and Technology, Yauri, Nigeria. Prior to participation, all participants were informed about the aims and objectives of the study, their freedom of participating, and the anonymity of their participation. Only those participants that gave electronic informed consent to partake in the study were allowed to proceed to fill the e-questionnaire; those that declined participation were automatically disabled from participating. To ensure anonymity, the e-questionnaire did not obtain information about the means of identity from any of the participant. No participant was harmed in the course of the study.

RESULTS

Response Rate

The response rate for the study was 69% (69/100).

Socio-demographic Characteristics

The majority (62.3%) of the respondents were within the age range of 20 – 29 years, 50.7% were males, 75.4% had been practicing for about 1 – 5 years, and 58.0% were practicing as a dentist in a public institution (Table 1).

Table 1. Background Characteristics of Respondents

Variable (N = 69)	Frequency	Percentage
Age (Years)		
20 – 29	43	62.3
30 – 39	17	24.6
40 – 49	8	11.6
≥ 50	1	1.4
Sex		
Male	35	50.7
Female	33	47.8
Prefer not to say	1	1.4
Years of Practice		
1 – 5	52	75.4
6 – 10	7	10.1
> 10	10	14.5
Place of Practice		
Private practice	23	33.3
Public institution	40	58.0
Not currently practicing	6	8.7

Knowledge of COVID-19

All respondents had heard of COVID-19 and the most common source of information on the disease was the

social media. Also, more than half (56.5%) of the respondents had never received any lecture/seminar on COVID-19 (Table 2).

Table 2. Respondents' awareness and sources of information about COVID-19

Variable (N = 69)	Frequency	Percentage
Heard about COVID-19		
Yes	69	100.0
No	0	0.0
Source of information about COVID-19*		
Social media	65	94.2
Television	56	81.2
Family member	27	39.1
Newspaper	28	40.6
Church/Mosque	21	30.4
Colleagues	45	65.2
Radio	35	50.7
Social media	65	94.2
Have you attended a lecture/seminar on COVID-19?		
Yes	30	43.5
No	39	56.5
*Multiple response question		

All respondents knew about the cause of COVID-19 and also that the virus can be transmitted through respiratory droplets. However, only 95.7% knew the family that the causative coronavirus belongs to. Furthermore, although

not all the respondents knew about the incubation period, symptoms, and safety measures to be adopted in curbing COVID-19 transmission; however, the majority ($\geq 76\%$) of them had this knowledge (Table 3).

Table 3. Respondents' knowledge of COVID-19

Variable (N = 69)	Correct (%)	Incorrect (%)
What causes COVID-19	69 (100.0)	0 (0.0)
What family does the virus belong to?	66 (95.7)	3 (4.3)
Its transmission is via respiratory droplets?	69 (100.0)	0 (0.0)
Infection occurs when viral particles come in contact with epithelium of the eye, nose, and mouth	68 (98.6)	1 (1.4)
Incubation period is 1-14 days	69 (100.0)	0 (0.0)
Symptoms include: Dry cough	69 (100.0)	0 (0.0)
Symptoms include: Fever	69 (100.0)	0 (0.0)
Symptoms include: Difficulty breathing	69 (100.0)	0 (0.0)
Symptoms include: Sore throat	63 (91.3)	6 (8.7)
Symptoms include: Headache	54 (78.3)	15 (21.7)
Symptoms include: Diarrhoea	53 (76.8)	16 (23.2)
Hand hygiene is vital to control spread	69 (100.0)	0 (0.0)
Wiping working surfaces with disinfectant is effective in reducing spread of infections	68 (98.6)	1 (1.4)
Wearing a surgical mask is important to reduce spread from patients confirmed to have it to other people	68 (98.6)	1 (1.4)
Wearing a surgical mask is vital for health care providers while attending to non-COVID-19 patients	68 (98.6)	1 (1.4)
Physical distancing helps to limit spread of the infection	68 (98.6)	1 (1.4)
Good respiratory hygiene is beneficial in reducing the spread	68 (98.6)	1 (1.4)

Risk Perception of COVID-19

All the respondents perceived COVID-19 to be highly contagious and a potential cause of respiratory failure. Furthermore, all of them felt that it is not safe to see a COVID-19 patient without personal protective gears (Table 4).

Only 81.2% of the respondents perceived COVID-19 to be a severe infection. Virtually all (98.6%) of them identified that it is not safe to examine a COVID-19 patient without personal protective equipment (PPE) or partial use of PPE. Also, virtually all (98.6%) of them believed that physical distancing and good respiratory hygiene practices help to limit spread of the infection (Table 4).

Table 4. Respondents risk perception on COVID-19

Variable (N = 69)	Yes (%)	No (%)
COVID-19 is a severe infection	56 (81.2)	12 (17.4)
COVID-19 is highly contagious	69 (100.0)	0 (0.0)
COVID-19 can cause respiratory failure	69 (100.0)	0 (0.0)
COVID-19 has a very high mortality rate	22 (31.9)	47 (68.1)
COVID-19 has so many disabling complications	38 (55.1)	31 (44.9)
It is safe to see a COVID-19 patient without personal protective gears	0 (0.0)	69 (100.0)
It's safe to examine a COVID-19 patient without personal protective equipment (PPE)	1 (1.4)	68 (98.6)
It's safe to carry out invasive procedures in a COVID-19 patient with just a surgical mask	1 (1.4)	68 (98.6)
It's safe to carry out aerosol generating procedures on a COVID-19 patient with just a surgical mask	1 (1.4)	68 (98.6)
It's safe to see a COVID-19 in the same clinic you see your regular patients	1 (1.4)	68 (98.6)
Wearing goggles and N95 respirator will limit the chances of infection spread amongst health care providers while attending to COVID-19 patients	67 (97.1)	2 (2.9)
Are you willing to see confirmed COVID-19 cases with the necessary Personal Protective Equipment (PPE)?	53 (76.8)	16 (23.2)
Will you perform invasive procedures on COVID-19 cases while putting on the necessary personal protective equipment (PPE)?	45 (65.2)	24 (34.8)
Do you have any concerns attending to COVID-19 cases?	48 (69.6)	21 (30.4)

Attitudes towards COVID-19

Four (5.8%) respondents agreed that HIV/AIDS is better than COVID-19 by far. None of the respondents agreed that those infected with COVID-19 were immoral; similarly, none of them agreed that people living with

COVID-19 should be thrown out of the community. However, more than half ([29+16]/69, 65.2%) of them indicated that they would like to help people that are infected with COVID-19 (Figure 1).

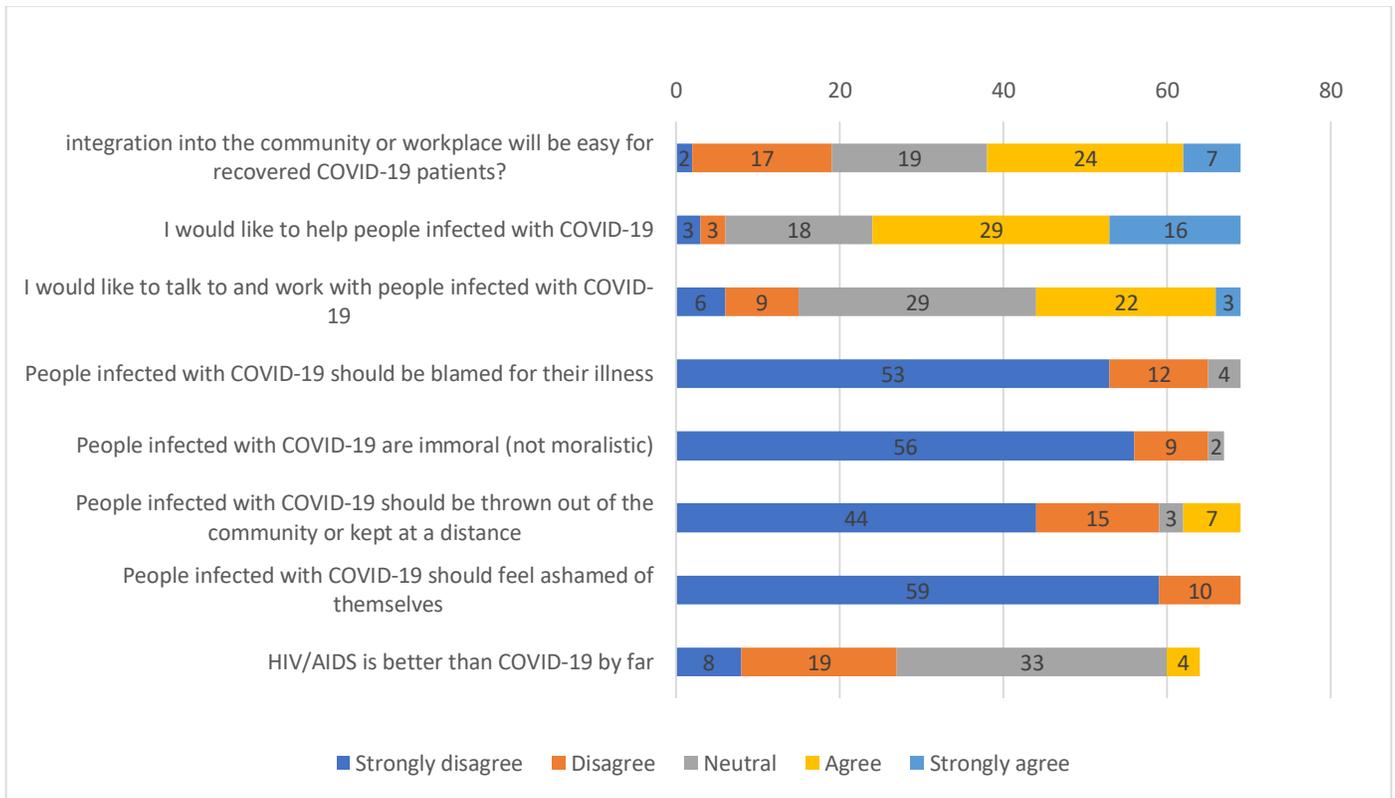


Figure 1. Respondents’ attitudes toward COVID-19

DISCUSSION

The findings obtained this study are very interesting. All the respondents in this study were aware of COVID-19. This impressive level of awareness rate had also been recorded among healthcare workers in China, Uganda, and other parts of the world.^{19,21,22} The most common source of information amongst our respondents on the disease was the social media. This form of media had also been reported to be one of the commonest sources of information on COVID-19 among in healthcare workers and university students.^{18,22}

Virtually all our respondents had sufficient knowledge about the disease; similar findings had also been reported among healthcare workers in Uganda and China,^{16,21} and also among medical students in Iran.²⁰ Also, the observed generally high rate of knowledge on COVID-19 among healthcare workers and medical students is similar to that reported among hospital visitors.²³ This may suggest that many people are aware of COVID-19.

So far, the cure for COVID-19 is yet to be determined.²⁴⁻²⁶ Unfortunately, COVID-19 is a highly contagious viral disease with life-threatening potentialities.^{1,2} In this study, we observed that our respondents’ perception of the risk of

COVID-19 is high and virtually all of them believed that physical distancing and good respiratory hygiene practices can help to limit its spread. However, we noted that the perception of our respondents toward the severity of all COVID-19 cases is highly exaggerated. Based on the available clinical epidemiological studies on COVID-19, most of its cases are mild with little to no serious complications, and very low mortality rate (1-2%).^{27,28} This suggests that many of our respondents considered it to be a very deadly disease.

It was also noted that many of our respondents showed positive attitudes toward COVID-19. However, minority of them were either indifferent or biased/fearful about the disease. This simply shows that not all the surveyed dentists were positively disposed towards: taking care of; and associating with people with COVID-19.

This study has its limitations. First, this study was a pilot study; it only surveyed a limited sample of dentists who were on the WhatsApp social media. Hence, those dentists who were not on this media did not have the equal opportunity of participating. Second, only those dentists whom the authors had access to were surveyed in this study; hence, our study did not have a universal coverage.

Third, this study failed to explore the reasons for the bias/fears observed among the respondents, regarding COVID-19. Based on this, it will be very difficult to make some unguided generalizations based on the data of this study.

Notwithstanding these limitations, this study is the first study to survey the knowledge, attitude, and practice of Nigerian dentists on COVID-19; hence, the study provides a basis upon which bigger studies can be conducted.

CONCLUSION

Virtually all of the dentists surveyed in this study had adequate knowledge about of COVID-19. Also, all of them felt that it is not safe to attend to a COVID-19 patient without using personal protective gears. Despite this high knowledge level, some few of them still expressed fears/bias towards people having the disease.

CONFLICT OF INTEREST

Authors of this study have none to declare.

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