Original Research Article

Assessment of knowledge, attitude and practice of COVID-19 guidelines among health care workers in Alex Ekwueme Federal University teaching hospital, Abakaliki, Ebonyi State, Nigeria

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ABSTRACT

Background: COVID-19 is a major Public Health challenge that has affected the world's economy. Assessment of the knowledge, attitude and practices of Healthcare workers (HCWs) towards COVID-19 can improve or sustain the successes recorded by relevant agencies in the fight against COVID-19.
Methods: a cross-sectional survey was done using semi-structured questionnaires and simple sampling technique. Data collected were analyzed using SPSS version 22.
Results: Out of the 368 respondents, 205 were doctors while 150 were nurses. Others were clerical workers, administrative officers and maintenance workers. Knowledge of COVID-19 was generally high amongst respondents recording a correct response to questions about knowledge of COVID-19 in more than 90% of the case. However, the attitude and practice of COVID-19 infection, prevention and control protocols were poor. Out of the respondents, 41.8% would not stay at home if they had minor COVID-19 like symptoms; only 39.4% would take responsibility to ensure people around them follow good respiratory hygiene. Respondents who would keep social distancing while talking with co-workers, ensure safe disposal of personal protective equipment (PPEs) and safe waste management of PPEs were 56%, 39.9% and 53.8% respectively.
Conclusions: Knowledge of COVID-19 prevention protocols is high but attitude/practice of these laid out protocols still desires a lot of effort from HCWs. There is need for training/retraining of HCWs on COVID-19 infection, prevention and control strategies to ensure the success being recorded against the disease is sustained while preventing the possibility of a second wave of infection.

Keywords: Attitude, COVID-19, Healthcare workers, Knowledge, Practice

INTRODUCTION

SARS-COV-2 has become a Public Health Emergency of International Concern, fast spreading like a ferocious wind to countries of the world.[1] Its effects have spared no country regardless of technological or scientific advancement. The disease which started in Wuhan, China in late 2019 has grown to a pandemic affecting over 23 million people including 810,492 deaths globally in its eight months of ravaging our planet earth.[2] In Nigeria, the Nigeria Centre for Disease Control (NCDC) has recorded 52,800 confirmed cases with 1,007 COVID-19 deaths as at 26 August 2020. Ebonyi State has a record of 965 confirmed cases with 27 COVID-19 deaths.[3] The novel corona virus is classified as Class B infectious disease and has been approached with preventive and control measures in accordance with Class A infectious diseases.[4]

Preventing the spread, treatment and development of vaccine for the virus has been topmost priority of world leaders. Although, vaccines are yet to be developed, eliminating the source of infection, cutting off the route of transmission, and protecting people from COVID-19 has been central to the actions of health authorities. The disease which is predominantly transmitted through respiratory droplets and contact[4] has prompted the institution of COVID-19 guidelines including social/ physical distancing, use of face mask, regular washing of hands with soap and running water, isolation of individuals who show symptoms of infection or who have had contact with an infected person, use of alcohol-based hand sanitizers as well as quarantining of confirmed cases of the disease. The incubation period of the virus is up to 14 days with symptoms like fever, cough, muscle pain, difficulty in breathing and fatigue. Severe cases of the virus present symptoms of acute respiratory distress syndrome, progressive pneumonia, sepsis, organ failure as well as septic shock which often lead to death.[5]

In the face of this public health emergency, it is painful that people still lacked the requisite knowledge, functional attitude and approved practices of COVID-19 guidelines.[6] Adherence to control measures and guidelines is predicated on one's knowledge, attitude and practices towards the disease.[7,8] A cross-sectional study of Henan Province of China reported moderate level of COVID-19 knowledge and practice as well as a positive attitude toward the disease guidelines.[9] The study found level of education, gender, marital status, and status of a health care worker as associated factors to knowledge of COVID-19. Residing in an urban area was also associated to good practices of COVID-19 guidelines.[9] In Saudi Arabia, high knowledge level, optimistic attitudes and good practices of COVID-19 guidelines were reported[10]. Men were found to show lesser knowledge, optimistic attitudes and good practice of COVID-19 guidelines than women.[10] The study also showed a better knowledge and practice of COVID-19 guidelines among older adults than the younger people.[10]

In Sudan, good knowledge and satisfactory attitude towards COVID-19 guidelines were recorded however; this knowledge and attitude were found not to be equivalently expressed into practice.[6] Health Care Workers in China, the epicenter of the disease was reported to be knowledgeable about COVID-19, held optimistic attitudes, and adopted appropriate practices towards COVID-19 guidelines.[11] Moreso, Puspitasari et al. in a more holistic study covering US, UK, Italy, Jordan, and China reported high knowledge, optimistic attitudes and good practices of COVID-19 guidelines.[12] The knowledge, attitude and practice of COVID-19 guidelines in these countries were revealed to be instrumental in case reduction rate and causalities earlier recorded at the wake of the pandemic.[12]

Although authorities at all levels have instituted numerous guidelines and preventing measures in curbing the spread of the disease, some of the anticipated outcome has not been achieved in some states of Nigeria. Plausible reason may stem from poor knowledge, attitude and practice of COVID-19 guidelines by actors in the Nigerian society. The health Care Workers, patients (in and out-patients), and the general public have a shared susceptibility to corona virus and are only as strong as they weakest link in prevention, control and cure of the virus.

In the presence of these deadly realities, the knowledge, attitude and practices towards COVID-19 have not been assessed in most hospital settings in Nigeria, hence the need for this study. This study therefore, seeks to empirically assess the level of knowledge, attitude and practices towards COVID-19 guidelines among health care workers in Alex Ekwueme Federal University Teaching Hospital, Abakaliki, Ebonyi State, Nigeria.

This study is significant in assisting public health authorities in making informed decisions why efforts in curbing the spread of the disease has not achieved the expected results and possible ways of approaching the situation.

METHODS

Study design and population

This study was designed as a cross-sectional survey among Healthcare workers at the Alex Ekwueme Federal University Teaching Hospital, Abakaliki using a simple random sampling method. A semi-structured questionnaire was designed, pretested for clarity and distributed to the participants. Participation in the study was anonymous, consensual and voluntary with an informed consent form signed by the participants before attempting the questions on the questionnaire. The questionnaires were designed according to the guidelines recommended for awareness and prevention of COVID-19 by NCDC. Expert opinions from public Health Professional were sought before the final draft were

administered to participants. The study period was from August 28 to October 1 2020.

Statistical analysis

Data collected from this study were analyzed using SPSS version 22. Categorical variables were presented in frequencies and percentages while continuous variables were presented as mean and standard deviation.

RESULTS

Out of the 400 questionnaires administered, 368 were returned fully and correctly filled, given a recovery rate of 92%. Out of the 368 respondents, 205 (55.7%) were doctors while 150 (40.8%) were nurses. Others were clerical workers, administrative officers and maintenance workers. The sex distribution showed 181 (49.2%) were males while 187 (50.8%) were females.

Table 1: Socio demographic characteristics.

Characteristics	Frequency (%)
Gender	
Male	181 (49.2)
Female	187 (50.8)
Age range	
Less than 24	43 (11.7)
25-34	219 (59.5)
35-44	57 (15.5)
45-54	33 (9.0)

Characteristics	Frequency (%)
55-64	13 (3.5)
65-above	3 (0.8)
Marital status	
Single	210 (57.1)
Married	150 (40.8)
Divorced	5 (1.4)
Separated	3 (0.8)
Religion	
Christianity	342 (92.9)
Islam	21 (5.7)
African Religion	5 (1.3)
Occupation	
Physician	205 (55.7)
Nurse	130 (35.3)
Allied Health Care Professional	14 (3.8)
Clerical staff	5 (1.4)
Administrator	11 (3.0)
Maintenance worker	3 (0.8)
Length of work experience	
Less than 3 years	175 (47.6)
4-10years	95 (25.8)
11-20 years	61 (16.6)
21-30 years	19 (5.2)
31 above	18 (4.9)
Area of residence	
Urban	347 (94.3)
Rural	21 (5.7)

Table 2: Respondents Knowledge of COVID-19.

Items	Yes (%)	No (%)	I don't know (%)
COVID-19 is caused by a virus	362 (98.4)	6 (1.6)	0 (0.0)
COVID-19 is new and has never been recorded before 2019	300 (81.5)	58 (15.8)	10 (2.7)
COVID-19 is transmitted through respiratory droplets and contact with person with COVID-19	341 (92.7)	12 (3.3)	15 (4.1)
Incubation period of COVID 19 is up to 14 days	352 (95.7)	2 (0.5)	14 (3.8)
Headaches, tiredness, cough, fever and difficulty in breathing are symptoms of COVID-19	355 (96.5)	7 (1.9)	6 (1.6)
Someone may have COVID-19 yet show no symptoms	349 (94.8)	13 (3.5)	6 (1.6)
COVID-19 can be prevented by regular wearing of face mask	349 (94.8)	10 (2.7)	9 (2.4)
COVID-19 can be prevented by frequent washing of hands with soap and water	350 (94.8)	12 (3.3)	6 (1.6)
Use of hand sanitizers prevent COVID-19	362 (98.4)	6 (1.6)	0 (0.0)
Keeping distance of at least 1 meter (3 feet) prevents one from contracting COVID-19	341 (92.7)	16 (4.3)	11 (3.0)
There is yet a vaccine for COVID-19	289 (78.5)	59 (16.0)	20 (5.4)
COVID-19 can be treated	303 (82.3)	20 (5.4)	45 (12.2)
Have you undergone COVID-19 testing	145 (39.4)	223 (60.6)	0 (0.0)
Suspected persons with covid-19 must go into self-isolation for 14 days	365 (99.2)	3 (0.8)	0 (0.0)
Confirmed cases of COVID-19 are often quarantined	365 (99.2)	3 (0.8)	0 (0.0)

The 25-34 age group was the modal age group. Knowledge of COVID-19 was generally high amongst respondents recording a correct response to questions about knowledge of COVID-19 in more than 90% of the case.

However, the attitude and practice of COVID-19 infection, prevention and control protocols were generally poor especially for this group of the population who are Health care professionals.

Out of the respondents, 41.8% would not stay at home if they had minor COVID-19 like symptoms; only 39.4% would take responsibility to ensure people around them follow good hygiene. Respondents who would keep social distancing while talking with co-workers, ensure safe disposal of personal protective equipment (PPEs) and safe waste management of PPEs were 56%, 39.9% and 53.8% respectively.

Other results are as in the tables below.

Table 3: Respondents attitude towards COVID-19.

Item	SA (%)	A (%)	Ne (%)	D (%)	SD (%)	Mean±SD
I am up to date on latest COVID-19 information from trusted sources like WHO and NCDC	181 (49.2)	99 (26.9)	28 (7.6)	32 (8.7)	28 (7.6)	4.01±1.27
Health authorities has provided the best possible guidelines for COVID-19	167 (45.4)	90 (24.5)	36 (9.8)	37 (10.1)	38 (10.3)	3.85±1.37
COVID-19 guidelines are fully operational in my facility	103 (28.0)	74 (20.1)	47 (12.8)	68 (18.5)	76 (20.7)	3.16±1.52
Health care workers are at controlled risk of infection from going to work these days	99 (26.9)	119 (32.3)	47 (12.8)	54 (14.7)	49 (13.3)	3.45±1.37
The pandemic and its guidelines increases the quality of my service delivery	138 (37.5)	61 (16.6)	61 (16.6)	46 (12.5)	62 (16.8)	3.45±1.51
I feel responsible on ensuring that people around me follow good respiratory hygiene, use of face mask and social distancing	145 (39.4)	136 (37.0)	54 (14.7)	25 (6.8)	8 (2.2)	4.05±1.00
I see myself staying home and self-isolating when presented with minor symptom's like cough, headache, mild fever until I recover	154 (41.8)	115 (31.3)	66 (17.9)	25 (6.8)	8 (2.2)	4.04±1.03
We are winning COVID-19 with the current guidelines in months to come	128 (34.8)	94 (25.5)	60 (16.3)	42 (11.4)	44 (12.0)	3.60±1.37
Mean						3.72±0.98

SA = Strongly Agree; A = Agree; Ne = Neutral; D = Disagree; SD = Strongly Disagree

Table 4: Respondents practice of COVID-19 guidelines.

Item	E D (%)	A E (%)	2 or 3 (%)	AO (%)	OT (%)	Ne (%)	Mean±SD
Regular washing of hands with soap and running water	281 (76.4)	56 (15.2)	20 (5.4)	0 (0.0)	0 (0.0)	11 (3.0)	5.59±0.98
Cleaning of hands with alcohol-based hand sanitizer	248 (67.4)	79 (21.5)	19 (5.2)	5 (1.4)	9 (2.4)	8 (2.2)	5.43±1.08
Covering of face with a face mask or face shield	269 (73.1)	74 (20.1)	9 (2.4)	6 (1.6)	3 (0.8)	7 (1.9)	5.57±0.93
Maintaining of at least 1 meter (3 feet) distance between yourself and others	206 (56.0)	105 (28.5)	33 (9.0)	4 (1.1)	6 (1.6)	14 (3.8)	5.25±1.18

Item	E D (%)	A E (%)	2 or 3 (%)	AO (%)	OT (%)	Ne (%)	Mean±SD
Abstinence from places with more than 20 persons	198 (53.8)	99 (26.9)	42 (11.4)	7 (1.9)	3 (0.8)	19 (5.2)	5.15±1.27
Safety use of personal protective equipment's (PPE)	147 (39.9)	111 (30.2)	55 (14.9)	6 (1.6)	17 (4.6)	32 (8.7)	4.73±1.54
Safe waste management of PPE like gloves, masks	198 (53.8)	121 (32.9)	23 (6.3)	8 (2.2)	7 (1.9)	11 (3.0)	5.26±1.13
Mean							5.28±0.87

Ne = Never; O T= Once or twice; AO = About once a week; 2 or 3 = 2 or 3 times a week; A E = Almost every day; ED = Every day

DISCUSSION

This study was conducted at the peak of COVID-19 in Nigeria between July and September, 2020 when new infections averaged 600 per day. The analysis of the results showed that the sex distribution slightly favored females who were 50.8% of the respondents. The modal age group of the respondents was the 25-34 age group showing that the respondents were in the prime of their careers. Out of these, 57.1% were single, 205 (55.7%) doctors, 130 (35.3%) nurses, 14 (allied Health Professionals), 5 (1.4%) were clerical staff, 11 (3.0%) Administrative officers and 3 (0.8%) Maintenance workers. Most of the respondents have spent less than 3 years in service (47.6%).

Knowledge of COVID-19 was generally high with at least 90% of respondents agreeing strongly with the correct options in the questionnaire testing knowledge of the virus, the disease condition, incubation period, mode of transmission and prevention.

The high knowledge is not unconnected with the fact that the study population is among Healthcare workers who are expected to have more knowledge of the disease as they are in the frontline of care for COVID-19 patients. The findings of this study was similar to the studies done by Puspitasari et al., Zhang et al., and Tadesse et al. who all reported a high knowledge of COVID-19 among Healthcare workers.[11-13]

The respondents in this study were not universally up to date with latest COVID-19 information from WHO and NCDC which are trusted sources as only 49.2% of respondents were abreast of latest information on COVID-19 from these sources. Only 28% 0f respondents strongly agreed that the COVID-19 guidelines were fully operational in the facility while 37.5% strongly think that the guidelines have improved the quality of their service delivery to patients. Respondents who felt responsible to ensure people around them followed good respiratory hygiene were only 39.4%.

This is worrisome because it is expected that Health workers should lead the fight against new infections by ensuring people around adhered to the guidelines. This finding was not similar to that of Tadesse et al. who found that respondents had a good practice of adhering to the guidelines.[13] It was also noted from the findings that only 76.4% of respondents washed their hands regularly with soap and water while 67.4% used alcohol hand rub regularly. Use of face shield or mask among the participants was also average as only 73.1% of respondents agreed to using them regularly. Social distancing, abstinence from places having more than 20 persons, safe disposal of PPEs and safe waste management were also poorly adhered to.

These practices have far reaching effects on the health care worker, co-workers and the public. These finding differed from those of Puspitasari et al., Zhang et al. and Tadesse et al. who all observed generally good adherence to these infection, prevention and control strategies against COVID-19 in their studies.[11-13]

CONCLUSION

The knowledge of COVID-19, its mode of transmission and prevention are reasonably high among Healthcare workers at the Alex Ekwueme Federal University Teaching Hospital, Abakaliki. However, there is a still a lot to be desired in putting this knowledge into practice. Healthcare workers are in the fore front of the battle against COVID-19. There is need for adequate training and re-training of Healthcare workers on COVID-19 guidelines and protocol so they would not endanger themselves, co-workers and the public in the discharge of their duties.

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