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AWARENESS LEVEL AND ATTITUDINAL RESPONSE OF HEALTH WORKERS TO COVID-19 PANDEMIC

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ABSTRACT

Background: Novel coronavirus (SARS-Cov2) and its resultant pandemic (COVID-19) seem increasingly ravaging on around the world.

Methods: This survey was carried out to assess the level of awareness and attitudinal response among health workers in Enugu metropolis of Nigeria as regards the Covid-19 pandemic. A simple two-part questionnaire was administered to health workers across an array of healthcare facilities (majorly hospitals and medical laboratories) within Enugu metropolis in Enugu state. The responses were processed and analyzed with the aid of Social Package for Social Sciences (SPSS).

Results: A total number of 235 respondents were covered with 77 being male respondents and 150 being female respondents, while the remaining 8 respondents did not indicate their sex. For the first part of the questionnaire (the awareness/knowledge related aspect), the statistical analysis revealed that a higher percentage of the respondents responded correctly and affirmatively. Also for the second part of the questionnaire (the attitudinal aspect), the percentage of the respondents that responded correctly and affirmatively was higher.

Conclusion: The findings from this study revealed a sufficiently high level of awareness and positive attitude among health workers in Enugu as regards the novel coronavirus (SARS-Cov2) and the Covid-19 Pandemic.

Keywords: SARS-Cov2, Covid-19, Knowledge, Attitude, Awareness

INTRODUCTION

A novel outbreak of coronavirus that was named COVID-19 by the World Health Organization (WHO) which causing respiratory disorder. It began in December 2019 near Wuhan City, Hubei Province, China.[1] The COVID-19 had been the sixth WHO public health emergency of international concern (PHEIC) in a decennary, after H1N1 (2009), Polio (2014), Ebola in West Africa countries (2014), Zika virus (2016), and Ebola in Democratic Republic of Congo (2019).[2]

This contagious virus is a pathogenic virus and the intermediate host(s) of the virus so far have not been discovered but evolutionary development of this disease was actioned with procurable as genome sequences of bats happen to be the COVID-19 virus infectious agent.[3,4]

Coronaviruses mostly cause gastrointestinal and respiratory tract infections and are inherently categorized into four major types: Gammacoronavirus, Deltacoronavirus, Betacoronavirus, and Alphacoronavirus. Gammacoronavirus and deltacoronavirus mainly infect birds, while Betacoronavirus and Alphacoronavirus mostly infect mammals. There are six types of human CoVs these comprise of HCoVHKU1, HCoV-OC43, Middle East Respiratory Syndrome coronavirus (MERS-CoV), Severe Acute Respiratory Syndrome coronavirus (SARS-CoV) which is the type of the Betacoronavirus, HCoV229E and HCoV-NL63, which are the member of the Alphacoronavirus.[5-7]

Coronaviruses did not draw global concern until the 2003 SARS pandemic, preceded by the 2012 MERS and most recently by the COVID-19 outbreaks. SARS-CoV and MERS-CoV are known to be extremely pathogenic and spread from bats to palm civets or dromedary camels and eventually to humans.[8-10] SARS-CoV-2 was particularly infectious above the 2-4 days before the beginning of symptoms, which made reactive control measures useless (similar to HIV), as individuals who are only infective of the contagious disease when evidently sick are much easier to quarantine (e.g., SARS-CoV-1 or smallpox are most transmitted when symptomatic.[11]

COVID-19 is circulating by particles of dust and fomites when close in contact with individuals are usually unsafe and regarded as infectors. Airborne distribution has not been recorded for COVID-19 and is not known to be a significant transmission engine based on empirical evidence.[12,13] Possible symptoms of COVID-19 are Cough, shortness of breath or difficulty breathing, Muscle or body aches, fever or chills, vomiting or diarrhea, and new loss of taste or smell.[14] This indeterminable rapid contagious infectious disease has induced global awareness, anxiety, distress and has posed a lot of job insecurity.[15]

METHODS

2.1. Study population

To evaluate the level of awareness and the attitudinal response of health workers to the covid-19 pandemic in Nigeria. A simple two-sectioned questionnaire was administered to healthcare workers between August- October 2020. The participants were sampled from both private and public hospitals that comprise a total of 20 hospitals and 10 laboratory clinics within Enugu metropolis of Enugu state of Nigeria.

2.2 Study design

A cross-sectional survey was shared with health workers by visiting each of the hospitals and laboratory clinics, with distribution and filling, and collection at a spot. The research instruments were built up and validated by Emerging and Re-emerging Advances in Sciences researchers comprising of microbiologists, chemists, biochemists, dental technologists, dental therapists, nutritionists, and public health practitioners. Section A of the questionnaire included basic demographics characteristics of the respondents; gender, age, marital status, profession, educational level.

Section B enclosed knowledge-related questions with yes/no and I don't know. Section C included attitude-related questions with 5-Likert scale options ranging from strongly agree (SA), agree (A), disagree (D), strongly disagree (SD), and undecided (U).

2.3. Study instruments and data collection

In this survey, the level of awareness and the attitudinal response of health workers to covid-19 was assessed using frequency and simple percentage to evaluate the response from the respondents. This instrument was developed based on the knowledge and attitude of healthcare workers toward the contagious COVID-19 pandemic.

This instrument employs simple yes/ no and I don't know Yes had a score ranging of 1 and 11 points while no or undecided answers were given a score of zero which was used to assess knowledge-based questions and a Likert-type scale of 1–5; "1 = SA," "2 = A," "3 = UD," and "4 = D and "5 = SD was awarded the score value of 0 that was employed on attitudinal questions of healthcare workers.

2.4. Data analysis

The responses from the questionnaire were processed through the Statistical Package for Social Sciences (SPSS) version 21 software was employed in the data analysis. The statistical instrument was adopted to give frequency, simple percentage, and data were represented as mean ± standard deviation. Pearson's Product Moment Correlation was employed to establish the significant association between the level of awareness on knowledge and attitude of healthcare workers towards COVID-19.

Pearson's Product Moment Correlation was used to find if there exists a relationship between knowledge and attitude towards COVID-19.

RESULTS

The tables below capture the information and statistics obtained from the administered questionnaire of this study. For demographic characteristics of the health workers.

Table 1 provided a total of 235 responses were obtained. Among the 235 participants, 63.8% were females, majorities (40.9%) were in the age group of 21-30years, 57.4% were married and almost one-fourth was MLS

Table 1: Demographic characteristics of the Respondents

	n (%)
Age	
1-10	1 (0.4)
11-20	13 (5.5)
21-30	96 (40.9)
31-40	76 (32.3)
41-50	31 (13.2)
51-60	15 (6.4)
≥60	3 (1.3)
Gender	
Male	77 (32.8)
Female	150 (63.8)
Missing	8 (3.4)
Marital status	
Single	90 (38.3)
Married	135 (57.4)
Divorced	3 (1.3)
Missing	7 (3.0)
Profession	
Pharmacist	30 (12.8)
Nurse	65 (27.7)
MLS	70 (29.8)
Nutritionist	9 (3.8)
Medical doctor	24(10.8)
Physiotherapist	7 (3.0)
Radiologist	3 (1.3)
Others	27 (11.4)

For awareness on the knowledge-related questions, Table 2 shows that 97% of the sample reported Covid-19 patients to develop severe acute respiratory symptoms and Coughing, high fever and fatigue are the hallmarks, while 96% believed that onset of the virus is within 1-14 days of the contagious disease. 81.7% of the respondents reported mode of transmission is mainly by close-in contacts with infected

individuals. 63% reported animals such as bat is the primary source of covid-19. Around 95.3% of the participants believed habitual washing of hands can serve as a preventive tool of reducing the proliferation of covid-19. Nearly all respondents (77%) desired COVID-19 is not available in the pharmaceutical market. 80.4% accorded that polymerase chain reaction is most frequently used with respect to diagnostic of COVID-19. Almost all respondents (97.4%) exceptional caution must be adopted when individuals from ASIA continent with the symptoms of COVID-19. 56.6% of the respondents reported that the first line of empiric treatment of COVID -19 is antimicrobial and almost all the respondents (97.4) described the virus as deadly.

Table 2: Respondents' Responses to Knowledge-related Questions

	Yes n (%)	No n (%)	U/D n (%)
Covid-19 patients develop severe acute respiratory symptoms			
	228 (97.0)	3 (1.3)	4 (1.7)
Coughing, high fever and fatigue are the hallmark of the infection symptoms			
	228 (97.0)	5 (2.1)	2 (0.9)
Incubation period for covid-19 virus is 1-14 days			
	227 (96.6)	7 (3.0)	1 (0.4)
Mode of transmission is by close contacts with infected person			
	192 (81.7)	8 (3.4)	35 (14.9)
Animal is the main source of covid-19			
	148 (63.0)	79 (33.6)	8 (3.4)
Frequent washing of hand can prevent transmission of covid-19			
	224 (95.3)	9 (3.8)	2 (0.9)
Covid-19 vaccine is available in the market			
	50 (21.3)	181 (77.0)	4 (1.7)
Polymerase chain reaction can be used to diagnosed			
	189 (80.4)	34 (14.5)	12 (5.1)
Special caution must be taken when persons from asia regio with the symptoms of covid-19			
	229 (97.4)	2 (0.9)	4 (1.7)
Empiric antimicrobial is the first line of treatment for covid-19			
	133 (56.6)	48 (20.2)	54 (23.0)
Covid-19 can be fatal			
	229 (97.4)	6 (2.6)	0 (0.0)

For attitudinal-related questions. Table 3 illustrated that nearly all respondents (95.3%) of the sample reported using universal precautions given by WHO, NIH, CDC can prevent the transmission of COVID-19 disease. Almost all the respondents (95.4%) reported active participation of healthcare workers in hospital infection programs can reduce the prevalence of COVID-19. Virtually all the respondents (94%) reported vital information on COVID-19 should be disseminated among healthcare workers and peers to reduce fear of the disease. Most of the respondents (91.5%) answered in order to reduce the spread of the disease patients with COVID-19 disease should be quarantined. Almost all the respondents (95.3%) confirmed those diagnosed with COVID-19 should be given intensive and emergency interventions. The majority of the respondents (96.1%) established healthcare workers have to be conversant with COVID-19 information and nearly all respondents (96.2%) affirmed before COVID-19 can be dealt with personal protective equipment must be used regularly.

DISCUSSION

A careful analysis and assessment of the results obtained from this study show a clear and sufficiently high level of knowledge and attitude among healthcare workers in the Enugu metropolis of Nigeria as regards the SARS-Cov2 and the COVID-19 Pandemics. The high literacy level among the healthcare workers and among the general populace of the Enugu metropolis of Nigeria maybe for the findings from this study.

Our study showed that approximately 41% were 20-31 years old, 63.8% were female, 57.4% were married and health workers accessed were medical laboratory scientists 29.8%, nurse 27.7%, pharmacist 12.8%, medical doctor 10.8%, nutritionist 3.8%, physiotherapist 3.0%, radiologist 1.3%, others 11.4%.

Table 3: Respondents' Responses to Attitude-related Questions

	SA n (%)	A n (%)	D n (%)	SD n (%)	U/D n (%)
Transmission of covid-19 can be prevented usinuniversal precautions given by who, NIH, CDC, etc					
	185 (78.9)	39 (16.6)	2 (0.9)	1 (0.4)	8 (3.4)
Prevalence of covid-19 can be reduced by active participation of healthcare workers in hospital infection control program					
	163 (69.4)	61 (26.0)	2 (0.9)	2 (0.9)	7 (3.0)
Any related information about covid-19 should be disseminated among peers and other health workers					
	172 (73.1)	49 (20.9)	2 (0.9)	4 (1.7)	8 (3.4)
Covid-19 infected patients should be quarantined					
	176 (74.9)	39 (16.6)	7 (3.0)	73.0)	6 (2.6)
Intensive and emergency treatments should be given to diagnosed patients.					
	176 (74.9)	48 (20.4)	1 (0.4)	0 (0.0)	10 (4.3)
Healthcare workers must acquaints themselves on information about covid-19					
	185 (78.7)	41 (17.4)	1 (0.4)	2 (0.9)	6 (2.6)
Personal protective equipment must be used when dealing with covid-19 patients.					
	200 (85.1)	26 (11.1)	2 (0.9)	0 (0.0)	7 (3.0)

S.A= Strongly Agree , A=Agree, D=Disagree, SD= Strongly Disagree, U/D= Undecided

The findings revealed on the awareness of health workers concerning COVID-19, 67% of the participants asserted that Covid-19 patients develop severe acute respiratory symptoms, showing that majority of the participants are well-informed about COVID-19. This is in line with research. More recently, WHO (2020) has stated that Developed by a multidisciplinary panel of health care providers with experience in the clinical management of patients with COVID-19 and other viral infections, including severe acute respiratory virus (SARS) and the Middle East respiratory virus (MERS), as well as sepsis and Clinical management of COVID-19: interim guidance acute respiratory distress syndrome (ARDS), this directive should help in the foundation of getting best clinical care to ensure optimise the possible chance for survival.[16]

There should be adequate management of patients to ensure that appropriate infection control, and supportive care is maintained. COVID-19 Patients with the serious disease usually need oxygenation support such as high-flow oxygen and noninvasive positive pressure ventilation.[17]

The present findings also showed that 97% of the participants confidently declared that coughing, high fever and fatigue are the hallmarks of the COVID-19 infection symptoms. This is an indication that most of the participants believed that COVID-19 patients usually develop the above symptoms and medical care should be sought immediately if someone has hallmark warning signs of COVID-19.[14]

The present study confirmed 96.6% of the respondents accorded that the incubation period for the covid-19 virus is 1-14 days. This is in line with research conducted by the world health organization suggested that the average serial interval of COVID-19 is shorter than the average incubation period, which suggests that substantial numbers of COVID-19 cases will be attributed to pre-symptomatic transmission.[18,19]

The current study sheds light that 81.7% of participants disclosed on the mode of transmission of the contagious disease, is usually by close contact with an infected person. COVID-19 is mainly transmitted from human to human through oral, respiratory aerosols and droplets of infected individuals of the virus can contaminate the environment. Healthcare providers and the elderly with co-morbidities are especially susceptible to the infection.[20]

Thus, there is a need for rigorous surveillance and testing to prevent further expansion of the pandemic. Protective devices must be applied especially when there is possibly close in contact with a suspect case or infected person who is not putting on a surgical mask that could drastically reduce the transmission of viruses in the environment. By adopting these specific prevention and protection measures recommended in the workplace, it will be possible to help overcome this COVID-19 pandemic.[21, 22, 23]

This study observed 63% prevalence that animal is the main source of covid-19. Studies have reported that coronaviruses that are causing illness for humans were originating from animals. Generally, these animals were either rodents or bats.[24, 25]

Nevertheless, 95.3% of the participants were already aware that washing of hands frequently can prevent transmission of covid-19. This is in line with WHO reported hand hygiene is key to stopping the spread of COVID-19, thus, developing preventive strategies besides washing of hands frequently there is urgently needed to reduce the contagious virus through environmental measures that are capable of reducing the risk of transmission of COVID-19 to individuals through contact with infected subjects, objects, equipment, or contaminated environmental surfaces. Some specific prevention and protection measures are recommendable in the workplace that will be helpful in overcoming this COVID-19 pandemic.[23, 26, 27]

The current study has limited strengths on the level of awareness, only 77% of participants are not aware whether the Covid-19 vaccine is available in the market which may be as a result of global availability and affordability of COVID-19 vaccine particularly in some "vaccine nationalism," the potentially unfair distribution of the vaccine globally, and intellectual property rights.[28] These corruption risks are the entrance of inferior and faked vaccines into markets, stealing of vaccines within the dispersion systems, leaks in sudden funding intended for the developing and dispersion of vaccines, nepotism, favouritism, and corrupted procurement systems. These corruption risks have to be pointed out and extenuate by public institutions to facilitate and encourage access to safe and effective COVID-19 vaccines by the most marginalized groups of a population.[29]

Nearly four-fifths of the participants are aware that polymerase chain reaction can be used to diagnose covid-19. Roberta et al reported that PCR has the potential for identifying minute amounts of DNA or RNA contained in tissues or fluids, PCR has improved the rapidity and accuracy of diagnosing, increase the understanding of pathogenesis, and assist in identifying the unknown causes of infective diseases. Blood antibody testing and viral antigen testing in respiratory samples, similar to the rapid influenza test.[30, 31]

The findings reported 97.4% of the respondents accorded that special caution must be taken when persons from Asia regions with the symptoms of covid-19. The number of confirmed cases is constantly increasing worldwide particularly in the Asian region, a steep increase in cases is currently (31 March 2020) being observed in low-income countries.[32, 33]

The findings revealed that 56.6% of the participants established that empiric antimicrobial is the first line of treatment for covid-19. This is in affirmation by Natasha 2021 et al., who reported a significant increase in the rate of empiric antibiotics received by patients with COVID-19.33 Since COVID-19 patients with a low procalcitonin, there is unlikely bacterial co-infection. Whether to initiate antibiotics in patients with suspected bacterial pneumonia and antibiotics can be safely withheld means PCT levels should not be used separately.34

The study affirmed that nearly all the participants 97.4% are aware that Covid-19 can be fatal. Co-morbidities among fatal cases include hypertension, diabetes, coronary heart disease, cerebral infarction, and chronic bronchitis.[35] Clinical severity range from asymptomatic to fatal

due to clinical characteristics and risk attributes of the virus is highly variable.[36]

The present study showed further investigation on a different perspective of health workers on the attitude of COVID-19, 78.7%% of the participants posited that the transmission of covid-19 can be prevented using universal precautions given by WHO, NIH, CDC.

Steady and understanding a particular training on the modes of exposure, transmission, and the use of proper personal protective equipment in order reduce the risk of the contagious virus hazards, which is essential to prevention. First aid and emergency medical assistance procedures are mostly very effective health organizations fix the standard to be practised by all individuals encountering contagious virus hazards. [37]

National Institute for Occupational Safety and Health (NIOSH) has preferred and approved N95 or equivalent or higher-level respirator. Information about the recommended duration of transmission-based precautions is available in the Interim Guidance for Discontinuation of transmission-based Precautions and disposition of Hospitalized Patients with COVID-19.[38]

This study revealed 69.4% of the participants corroborate that the prevalence of covid-19 can be reduced by the active participation of healthcare workers in hospital infection control programs. Adequate measures are important for the wellbeing and safety of patients, families, health workers and the community of the vulnerable. Implementation of the IPC programme and hospital Infection Control Committee (HICC) at the healthcare facility should be the first step towards the prevention of transmission of the virus.[39]

A hospital in the metropolitan area in a north-central state of Nigeria has also confirmed that infection control measures were not adopted by healthcare workers especially when the infection condition of patients was unknown.[40] Hospital management teams should provide PPE to health facilities and should ensure compliance to outlined COVID-19 safety measures.[41]

The present study confirmed 73.1% of the respondents established that any related information about covid-19 should be disseminated among peers and other health workers. Messaging about COVID-19 testing, behavioural health services, and federal stimulus opportunities must be accurate, culturally understood, and disseminated through information channels that reach Black and Latino communities.[42]

Negative response increases, as individuals who are competing to meet their basic needs mainly to the epidemic disease, ignore and bypass prevention measures or mobility restrictions. Lack of awareness and information about COVID-19 can subvert social cohesion and inspires ferocity, favouritism, marginalization and fear.[43] Based on the facts that a high level of well-educated was among individuals in the urban area that makes utilization of traditional way of spreading information was not regarded.[44, 45] Networks of community health agents that support the response to polio and other diseases have been leveraged for sensitization and to raise the alarm about suspected COVID-19 at the sub-national level.[45, 46]

This study observed a 74.9%% prevalence that Covid-19 infected patients should be quarantined. Inadequate awareness and poor knowledge were reported on isolation precaution and quarantine that could be as a result of the unavailability of constant training, health facilities such as infection prevention control guidelines and lack of personal protective equipment for health workers. This would, however, lead to an increase in the prevalence of healthcare-associated infections and quarantinable diseases.[47] There should be planning for isolation and quarantine with partner organizations that will be needed to support non-hospital isolation and quarantine should be contacted and participate in training.[48] Any individual under

quarantine should have a separate room and toilet facilities. Routine hygiene measures are helpful to decrease the risk of the spread of the infection. Daily body temperature should be checkmated for the individual under quarantine and if the person becomes severely ill should be transferred to the hospital by ambulance and the possibility of COVId-19 infection must be made unknown before dialling emergency 112. The duration of quarantine of the exposed but well is 14 days from the last exposure or until symptoms occur, in which case please continue to read.[49]

This study observed a 74.9% prevalence that intensive and emergency treatments should be given to diagnosed patients. In another study, it was revealed that in order to manage patients with serious illnesses, there is a need for urgent and adequate care such as the identification and continued observation, assessment, and treatment.[3] Emergency and critical care centres on reviving mentally ill patients by exercising time for recovery or the effect of specific therapies to improve outcomes and prevent death.[50]

Factors to be considered when assessing suitability for admission to intensive care are diagnosis, the severity of illness, age, coexisting disease, physiological reserve, prognosis, availability of suitable treatment, response to treatment to date, new cardiopulmonary arrest, anticipated quality of life, and the patient's wishes. Intensive care is necessary before patients' condition is reaches a point of unrecoverable. Necessary criteria may assist in identifying those at risk and who need urgent intensive care. Early referral improves the chances of recovery, reduces the potential for organ dysfunction, the length of stay and in intensive care and hospital.[51] Hypovolaemia is likely associated with patients of COVID-19 and fluids should be administered cautiously, and given the high frequency of myocardial dysfunction in COVID-19.[52]

The findings revealed that 78.7% of the participants established that healthcare workers must acquaint themselves with information about covid-19. Public health emergencies can be intensely socially dissentious, stretch public-health capacities and limit rights to privacy and informational self-determination, it is important for policy-makers to consider the ethics of their crisis-management policies rationally. Although the Siracusa Principles may allow for the limitation of, or derogation from the International Covenant on Civil and Political Rights (ICCPR), confining people during the outbreak of a deadly disease in emergency contexts should follow the WHO guidance for managing ethical issues and the guidance on ethical issues in research in global health emergencies could help to ensure appropriate ethical oversight and collaboration, to help combat the social stigmatization of those affected, or perceived to be affected, by the disease.[53]

The infectious disease outbreaks can it more difficult for many to receive treatment and health services. Critical health services and information about COVID-19. Accurate COVID-19 prevention and medical information should also be distributed in conflict-affected contexts to reach all individuals regardless of the communities and area of settlements. Preparing unpaid caregivers and community health workers with information, training, adequate equipment and livelihood support to respond to the COVID-19 pandemic effectively.[54]

Finally, nearly four-fifth of the participants are aware that personal protective equipment must be used when dealing with covid-19 patients. There should be infection prevention and control (IPAC) best practices for use of personal protective equipment (PPE) in health care settings.[55] Personal protective equipment is the final protection stage of for healthcare workers. Health workers should be given appropriate and adequate personal protective equipment for protection against covid-19. Healthcare workers who were involved in the direct care of patients with covid-19 should be equipped with standardized personal protective equipment, such as protective suits, masks, gloves, goggles, face shields, gowns, safety glasses and or face shields has been

recommended.[56, 57]

In conclusion, one important factor in preventing the disease from spreading further was having a favorable attitude toward the adoption of preventative measures. The needs for awareness can be met by a thorough and contextually appropriate awareness-raising strategy and communication initiatives. In order to stop COVID-19 and stop false information from spreading, which reduces the efficacy of health measures, communication is desperately needed.

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