

# ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICE ON COVID-19 PREVENTIVE GUIDELINES AMONG CLINICAL STUDENTS OF CHUKWUEMEKA ODUMEGWU OJUKWU UNIVERSITY TEACHING HOSPITAL, AMAAKU, AWKA, ANAMBRA STATE

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**Abstract:** COVID-19 is a global public health issue that affected almost all countries of the world along with their enemies. The infection proved to be critical due to its mode of transmission and incubation period. This study was therefore carried out to assess the knowledge, attitude and practice on COVID-19 preventive guidelines. The study employed the use of face-to-face interview using a 20-item questionnaire. The sample size was calculated using Morgan's table giving rise to 147 clinical students. Descriptive statistics were used to calculate frequencies and percentages using IBM SPSS 25. The study revealed that a great percentage of clinical students identify COVID-19 as a virus. 87% of the students that participated in the study agreed that COVID-19 causes change in taste or smell. About 93.2% were aware that COVID-19 is spread through close contact with an infected person while the remaining 6.8% said otherwise. The majority of the participants were aware that the incubation period of COVID-19 is between 3-21 days. The majority (76%) ascertained fever, cough and shortness of breath as common COVID-19 symptoms. The clinical students were aware that there was currently no viable treatment for COVID-19. About 10.9% were unaware that patients with underlying chronic illnesses are more susceptible to COVID-19. The study also found that majority of the respondents (78.9%) thought COVID-19 was a serious disease. Almost all respondents consented that wearing a facemask is critical for preventing the spread of COVID-19. Based on findings, it implies that although greater populations of clinical students of COOU have a positive attitude and ample knowledge on COVID-19, more effort should be put in disseminating proper information about the infection and also checkmating COVID-19 protocols among clinical students.

**Keywords:** coronavirus, transmission, treatment, facemask.

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## 1. INTRODUCTION

Coronavirus infections are caused by emerging respiratory viruses that are known to cause diseases ranging from the common cold to illnesses involving severe respiratory distress. In 2002, the first pandemic outbreak of the coronavirus that causes severe acute respiratory syndrome (SARS) was associated with a mortality rate of approximately 10%. In 2012, the

outbreak caused by Middle East respiratory syndrome coronavirus (MERS-CoV) was associated with a mortality rate of 30–40%. In December 2019, a new outbreak of viral pneumonia of an unknown etiology developed in Wuhan, China. The genetic analysis of the underlying pathogen revealed an enveloped positive-strand ribonucleic acid (RNA) virus belonging to the family *Coronaviridae* and the order *Nidovirales*. (1) Coronavirus disease 2019 (COVID-19), as it was tagged by World Health Organization (WHO) in February 2020 (2), is a novel highly contagious respiratory disease caused by a novel coronavirus. (3)

SARS-CoV-2 is a RNA virus, which is characterized by symptoms such as fever or chills, cough, difficulty breathing, fatigue, muscle or body aches, headache, new loss of taste or smell, sore throat, congestion or runny nose, nausea or vomiting, and diarrhea. (4) Coronavirus can be transmitted via animal-to-human and human-to-human interactions. Whereas human-to-human transmission routes include droplet inhalation, coughing, and sneezing, contact transmission modes include feco-oral, nasal, and eye mucous membrane contacts. Practicing preventive measures such as hand washing with soap and water, wearing of face mask, social distancing, covering of the mouth and nose when coughing, and avoiding touching of the face can prevent transmission of COVID-19 infection. (4) On January 30, 2020, WHO declared the COVID-19 outbreak a public health emergency of international concern and, in March 2020, began to characterize it as a pandemic in order to emphasize the gravity of the situation and urge all countries to take action in detecting infection and preventing spread. (1,2,3)

COVID-19 infections spread very quickly. By the first weeks of March 2020, many new cases had been reported globally, and COVID-19 was declared a pandemic. In the same month, more than 125,000 cases of COVID-19 were reported in about 118 countries, with more than 4600 deaths. (1) As of October 2, 2020, more than 34.6 million cases and one million deaths were reported globally. (4) As of February 25th, 2022, over 432 million confirmed cases and about 6 million deaths have been reported globally. (3)

Healthcare organization and the staff are the caregivers for treating coronavirus-infected patients. Frontline healthcare workers are at high risk of infection due to direct contact with the infected patients. (5) To reduce the transmission of coronavirus infection and protect the healthcare staff, preventive and protective measures need to be implemented and practiced in hospitals and other healthcare fields. (6) To reduce transmission of SARS-CoV-2, primary prevention strategies are feasible and the best option is wearing PPE in resource-limited settings. The use of facemasks is one of the indispensable measures to prevent the transmission of COVID-19 (7). Face masks is a major non-pharmaceutical intervention to control virus transmission during the pandemic. Depending on the type, masks can be used either for the protection of healthy persons or to prevent onward transmission (source control). (7)

Healthcare workers are the backbone of the healthcare system, and globally formed the first line of defense, critical for treating and managing patients in the first wave of the pandemic. These frontline workers in patient-facing roles are regularly exposed to infected cases and have high potential of transmission. A skilled and healthy workforce is a vital ongoing need to ensure safe and effective health services to the community, which is paramount in a health crisis such as the current one. In addition, HCWs should hold good knowledge and attitudes toward COVID-19 to protect themselves, their colleagues, families and the larger community. (8)

Although multiple vaccines are now available, their long-term efficacy is unknown, they may not be effective against mutant strains and are experiencing a high degree of hesitancy. Thus, the application of precautionary measures remains important to minimize pandemic spread and reduce mortality rate. There are a variety of practices that play an important role in controlling infection such as washing hands, wearing face masks, use of mouthwash, social distancing (stay at home) and isolating confirmed cases. (8) Hence, this studies to assess the knowledge, attitude and practices of covid-19 preventive guidelines among clinical students of Chukwuemeka Odumegwu Ojukwu University Teaching Hospital Amaku, Awka, Anambra State.

## 2. MATERIALS AND METHODS

A cross-sectional survey was conducted to obtain responses from clinical students of Chukwuemeka Odumegwu Ojukwu teaching hospital around September 18<sup>th</sup> to September 25<sup>th</sup>, 2022. A total of 147 clinical students participated in the survey. The study was carried out using face-to-face interviews within the teaching hospital environment. An English based questionnaire was designed for the survey.

**Inclusion and Exclusion criteria**

Participants were briefed about the nature of the study, its voluntary nature, and the right to withdraw at any time without negative consequences. Those who wanted to participate in the study had to grant permission for data to be generated from their answers, and only then were allowed to proceed with filling out the questionnaire. This study was conducted in accordance with the Declaration of consent.

**Development, Validation, and Distribution of the Questionnaire**

A questionnaire with 20 items (in English) was formulated using reference material, fact sheets, and information leaflets on COVID-19 developed by the WHO, national health services, and relevant literature. To ensure the content was valid and appropriate for the study, it was reviewed by experts working in the field and revised according to their comments. Subsequently, the questionnaire was pretested on 15 clinical students selected randomly to make sure that the questions were clear and understandable. None of the participants made comments implying a need to change the questionnaire.

**Sampling Method**

Participants were selected for the survey randomly. The sample size required for the study calculated using Morgan’s table. Considering the population of clinical students in Chukwuemeka Odimegwu Ojukwu teaching hospital as (N=200) with 99% CI and 5% margin of error and 10% attrition value, the sample size calculated was 147 using the Yamena formula as stated below.

$$n = \frac{N}{1 + N(0.05)^2} \quad (1)$$

**Content of the Questionnaire**

The questionnaire included multiple-choice questions designed to assess participants’ demographics characteristics and KAP in the context of COVID-19. Demographics information comprised sex, age, level of study and marital status. Questions addressing the knowledge, attitude and practice of clinical students are shown in table 2, 3 and 4 respectively.

**Data Analysis**

Descriptive statistics were used to calculate frequencies and percentages using IBM SPSS 25. Each correct answer was given one point. Total scores were then converted to percentages. Scores of ≤60% were considered poor knowledge, negative attitudes, or high-risk practices, 60.1%– 80% moderate knowledge, moderate attitudes, or moderate-risk practices, and ≥80.1% good knowledge, positive attitudes, or low-risk practices.

**Implications of the Study**

The study findings provide a useful insight into the Knowledge, attitude, and practice of clinical students in Chukwuemeka Odimegwu Ojukwu Teaching Hospital Awka, which could help the policy/decision-makers in public health to design better programs based on the results obtained.

**Table 1: Demographics characteristics of the respondents**

|     | Categories | % (n)       |
|-----|------------|-------------|
| Sex | Male       | (55.8%) 82  |
|     | Female     | (44.2%) 65  |
| Age | 23-25      | (33.3%) 49  |
|     | 26-28      | (19.04%) 28 |
|     | 29-31      | (17.68%) 26 |
|     | 32-34      | (13.60%) 20 |
|     | 35-37      | (10.20%) 15 |
|     | 38-40      | (6.10%) 09  |

|                |                       |             |
|----------------|-----------------------|-------------|
| Level of study |                       |             |
|                | 4 <sup>th</sup> level | (38.8%) 57  |
|                | 5 <sup>th</sup> level | (32.7%) 48  |
|                | Final year            | (26.6%) 42  |
| Marital status |                       |             |
|                | Single                | (94.6%) 139 |
|                | Married               | (5.44%) 08  |

### 3. RESULTS

Table 1 shows the socio-demographic characteristics of the respondents. Of the 147 who participated in the survey, 82 (55.8%) were male clinical students, 65 (44.2%) female, and 28 (19.04%) aged between 23-25 years; 49 (33.3%) aged between 26-28 years, 26(17.68%) aged between 29-31. The least age participant are 09(6.10%) aged between 38-40. More than half the participants (94.6%) are single. Items of the level of the participants majority of them are in their 4<sup>th</sup> level having 57 (38.8%) participants; while those in the 5<sup>th</sup> level have 48 (32.7%) participants and the final year level students were 42 (22.4%) that participated in the study.

**Table 2: Knowledge of clinical students about Covid-19**

|   | True        | False       |
|---|-------------|-------------|
| The cause of COVID-19 is a virus.   | 136 (92.5%) | 11 (7.5%)   |
| The type of genetic material in COVID-19 is DNA.                                | 27(18.4%)   | 120 (81.6%) |
| Change in or loss of taste or smell is very frequent with COVID-19.             | 129(87.8%)  | 18(12.2%)   |
| COVID-19 is transmitted by close contact with an infected person.               | 137(93.2%)  | 10(6.8%)    |
| Fever, cough, and shortness of breath are common symptoms of COVID-19           | 112(76.2%)  | 35(23.8%)   |
| Its incubation period is 3–21 days.   | 89(60.5%)   | 58(39.5%)   |
| COVID 19 cannot be treated  | 19(12.9%)   | 128(87.1%)  |
| Individuals with underlying chronic diseases are more susceptible to infection. | 131(89.1%)  | 16(10.9%)   |

Table 2 displays the students' knowledge of COVID-19. A high percentage (92.5%) correctly identified COVID-19 as the result of a virus. The majority of those surveyed were aware that the genetic material in COVID-19 was not DNA, but 18.4% answered incorrectly. Almost all students (87%) reported that COVID-19 causes changes in or loss of taste or smell. Approximately 93.2% were aware that COVID-19 is spread through close contact with an infected person, while 6.8% answered inaccurately. The majority of participants were aware that the incubation period of COVID-19 is between 3 and 21 days, while 39.5% were not. The majority (76.2%) ascertained fever, cough, and shortness of breath as common COVID-19 symptoms. The clinical students were aware that there was currently no viable treatment for COVID-19, but 12.9% were unaware. About 10.9% were unaware that people with underlying chronic diseases were more vulnerable to infection, while the remaining 89.1% correctly answered.

**Table 3: Attitude of clinical students towards Covid-19**

|  | True        | False       |
|--|-------------|-------------|
| COVID-19 is not a serious disease of concern.                      | 31(21.1%)   | 116 (78.9%) |
| The face mask is very important to prevent the spread of COVID 19  | 141(95.9%)  | 07 (4.1%)   |
| COVID-19 can be treated at home without bothering to see a doctor. | 68 (46.3%)  | 79 (53.7%)  |
| Treating a COVID-19 patient does not put you at risk of infection. | 96 (65.3%)  | 51 (34.7%)  |
| Health education helps in the prevention and spread of COVID-19.   | 115 (78.2%) | 32 (21.8%)  |

Table 3 depicts clinical students' attitudes toward COVID-19 at Chukwuemeka Odumegwu Ojukwu Teaching Hospital. The majority of participants 116 (78.9%) thought COVID-19 was a serious disease. Almost all students (95.9%) consented that wearing a facemask is critical for preventing the spread of covid 19. Nearly half of the clinical students (46.3%) believed that COVID-19 could be treated at home without the need for a doctor's visit. The majority of 96 (65.3%) consented that handling a COVID-19 person does not put a person at risk of infection, while the remainder happens to disagree. A sizable proportion of 115 (78.2%) believed that health education would aid in disease spread and prevention.

**Table 4: Practice of clinical students towards Covid-19**

|   | True        | False       |
|---|-------------|-------------|
| A frequent wash of hands with soap and water.                         | 121 (82.3%) | 26 (17.7%)  |
| frequently mouth wash   | 23 (15.6%)  | 124 (84.4%) |
| Place known or suspected patients in well-ventilated individual rooms | 92 (62.6%)  | 55 (37.4%)  |
| By maintaining at least 1 m distance between yourself and others      | 137 (93.2%) | 10 (6.8%)   |
| Avoid touching your eyes, nose, and mouth                             | 141 (95.9%) | 06 (4.1%)   |
| Follow good respiratory hygiene                                       | 91 (61.9%)  | 56 (39.1%)  |
| Apply the use of a face mask in crowded areas                         | 144 (98%)   | 03 (2%)     |

Table 4 presents what clinical students reported about their behavior with regard to COVID-19. Almost all reported that they frequently washed their hands with soap and water and used a face mask when going to crowded places 144 (98%). A large percentage of 137 (93.2%) practiced social distancing, while the remaining 10 (6.8%) did not practice social distancing, and a majority (95.9%) knew of the importance of not touching eyes, nose, or mouth with hands. 91 (61.9%) of the respondents informed us that they followed good respiratory hygiene. A majority of 92 (62.6%) reported placing known/suspected COVID-19 patients in a well-ventilated individual room, while 55 (37.4%) did not seem to practice this.

#### 4. DISCUSSION

Ever since the notification of the first COVID-19 case in Nigeria on February 27, 2020, there has been widespread concern among the Nigerian public and governmental entities. Despite recent improvements in COVID-19 vaccine development, there remains no cure for the illness, and clinical students and other care providers are assumed to play a key role in educating the public.

This clinical student at Chukwuemeka Odumegwu Ojukwu Hospital Awka is familiar with the nature, transmission, and other aspects of the COVID-19 virus. The purpose of this study was to assess clinical students' knowledge, attitude, and practice of COVID-19 guidelines at Chukwuemeka Odumegwu Ojukwu University teaching hospital in Awka, Anambra. In summary, the clinical students in this study possessed commendable knowledge, attitudes, and practices; however, definite areas required further development.

A significant proportion (92.5%) ascertained COVID-19 as the result of a virus. The majority of those surveyed were aware that the genetic material in COVID-19 was not DNA, but 18.4% were inaccurate. Almost all students (87%) reported that COVID-19 causes changes in or loss of taste or smell. Approximately 93.2% were aware that COVID-19 is spread through close contact with an infected person, while 6.8% answered wrongfully. The majority of respondents were aware that the incubation period of COVID-19 is between 3 and 21 days, while 39.5% were not. The majority (76.2%) successfully classified fever, cough, and shortness of breath as prevalent COVID-19 symptoms. The clinical students knew that there was currently no proven treatment for COVID-19, but 12.9% were unaware. About 10.9% were unaware that people with underlying chronic diseases were more vulnerable to infection, while the remaining 89.1% correctly answered.

In clinical students' attitudes toward COVID-19 at Chukwuemeka Odumegwu Ojukwu Teaching Hospital, the majority of 116 people (78.9%) believed that COVID-19 was a serious disease. A greater number of clinical students (95.9%) agreed that wearing a facemask is critical for preventing the spread of covid 19. Almost half of the clinical students (46.3%) believed that COVID-19 can be treated at home without the need for a doctor's visit. The majority of 96 (65.3%) agreed that handling a COVID-19 patient does not put a person at risk of infection, while the remainder disagreed. A sizable proportion of 115 (78.2%) believed that health education would aid in disease spread and prevention.

Clinical students reported on their COVID-19 behavior. Almost all respondents (144%) said they regularly washed their hands with soap and water and used a face mask when going to crowded areas. A large percentage of 137 (93.2%) started practicing social distancing, while the remaining 10 (6.8%) did not, and the majority (95.9%) were conscious of the necessity of not touching eyes, nose, or mouth with hands. 91 (61.9%) of respondents said they practiced good respiratory hygiene. The majority of 92 (62.6%) reported placing known/suspected COVID-19 patients in a well-ventilated individual room, while 55 (37.4%) did not appear to practice this.

## 5. CONCLUSION

Coronavirus 2019 (COVID-19) a communicable disease posed a major threat to public health across the globe between 2019-2021 crippling alongside global market and world economy. Although various researches and scientific breakthroughs have occurred over the years, there is still no permanent cure for the infection rather we have various vaccines. Though these vaccines are taken at intervals and yet they do not ensure permanent safety from the infection. And so, there is still need to remind the general public most especially clinical students that COVID-19 infection was only curbed and not eliminated. And so, they should try not to let their guards down on the fight against COVID-19 infection.

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