



## Knowledge of Preventive Measures of Covid-19 among Students of Federal College of Dental Technology and Therapy Enugu State, Nigeria

Bolaji Opeyemi<sup>1\*</sup>, Enyi Catherine Nkeiru<sup>2</sup>, Ayuk Martin Bate<sup>3</sup>, Angela Shalangwa Yufus<sup>4</sup>

<sup>1</sup>Department of General Studies

<sup>2</sup>Department of Applied Science

<sup>3</sup>Department of Biomedical Engineering

<sup>1-3</sup>Federal College of Dental Technology and Therapy Enugu State

<sup>4</sup>Department of Human Kinetics and Health Education Enugu State University of Science and Technology Enugu

### \*Correspondence:

Bolaji Opeyemi; <sup>1</sup>Department of General Studies, Federal College of Dental Technology and Therapy Enugu State. Email: [bolajiopeyemi2000@gmail.com](mailto:bolajiopeyemi2000@gmail.com); +2347031243912

### Abstract

*Corona Virus (COVID-19) is a deadly infectious disease characterized by mild to moderate fever, sore throat, fatigue, dry cough, dehydration and pale skin. The study examined the knowledge of preventive measures of COVID-19 among students of Federal College of Dental Technology and Therapy in Enugu State. Three research questions and one hypothesis was formulated to guide the study. The hypothesis was tested at  $p > .05$  level of significance. Descriptive design was adopted for the study. The population for the study comprised 1,580 respondents. The sample for the study was 340 (179 males and 161 females) students of federal college of dental technology and therapy Enugu. The instrument for data collection was structured questionnaire titled "Knowledge and preventive measure of COVID-19 questionnaire: (KPMCQ)". The instrument was face-validated by three experts. Frequency counts and percentages was used to answer research questions while chi-square statistic was used to test hypothesis at .05 level of significance. The results of the study revealed among others that the students have high knowledge on the COVID-19 as well as the preventive measures. Based on the findings, the researcher recommended among others that the school management should ensure the provision of hand washing materials, hand sanitizers, face mask, and other equipment that are designed to effectively curtail the spread of COVID-19 within the reach of the students.*

**Keywords:** Knowledge, Preventive measures, COVID-19, Students

### Introduction

Coronavirus disease (Covid-19) is an emerging respiratory disease caused by SARS-Cov-2. The corona virus spreads primarily through droplets of saliva or discharge from the nose or mouth when the infected person sneezes, speaks or coughs people can get the infection by touching contaminated surfaces and touching their eyes, nose or mouth (WHO, 2020). It has been reported



that persons without symptoms can also infect others when in close contact. According to Ademola, (2020), confirmed causes of covid-19 usually present with clinical signs and symptoms of fever, dry cough, tiredness and shortness of breath with incubation period of 2-14 days, with a median of 5-6 days .This implies that if a person remains well 14 days after having contact with an infected person, he /she may not have been infected .Some people become infected but do not develop any symptom and do not feel unwell and mortality (Alegbeleye, 2020).

Mohammed (2020) revealed that most of the fatal cases of covid-19 occurred in older adults and people with underlying medical conditions. There was increase in the rate of the deaths in the society, many were died being fully aware of the disease while others passed on without knowing the cause of their illness, in most cases it was ignorantly considered as malaria. This is because the COVID-19 shares similar symptoms with malaria .According to Johnson (2020), individuals with hypertensive, cardiovascular, and respiratory system disease were the most vulnerable groups associated with mortality due to covid-19.

As the outbreak of covid-19 continues to unfold, major concern is being raised about its effects on the students and potential risk of vertical transmission. Although vaccines for covid-19 are now available, it not clear if vaccines can prevent transmission of the virus therefore, use of covid-19 preventive measures is critical in the control of the new severe acute respiratory syndrome coronavirus 2 (SARS-Cov-2). According to kennyand Eme (2020) various interventions have been implemented globally such as partial lockdowns, contact tracing, and self –isolation or quarantine and promotion of public health measure include hand hygiene, respiratory protocols, and social distancing to curb the spread of virus. Adebisi and Oke (2020) the successful control of covid-19 infection requires change of individual behavior, and this is influenced by the understanding of the characteristics of the disease and its preventive measures.

Preventive measures such as hand washing with soap and water, wearing of face mask, social distancing, covering of the mouth and nose can prevent transmission of covid-19 infection( Brownstein and Allen , 2020).In response to the global pandemic, the government of Nigeria adopted several control strategies to reduce the morbidity and mortality associated with covid-19, such strategies are testing, tracing and treatment approved, lockdowns in some part of the country, and ensuring that all Nigerians practices covid-19 preventing measures. Despite these measures taken by the government of Nigeria to control the covid-19 pandemic. WHO (2020) observed that Nigeria is one of the countries with a substantial increase in the member of covid-19 cases. The first confirmed case in Nigeria was an Italian citizen in Lagos who tested positive to the virus ( Nigeria Centre for Disease Control, February, 2020).The virus responsible for COVID-19 is a novel coronavirus because ,it is a newly discovered type of coronavirus among human. The disease was previously known as 2019- n CoV (2019 Coronavirus) until 11th February 2020 when the international Committee on Taxonomy of Virus ( I C T V) introduced the new name COVID-19 (Walter, 2020). The Nigeria government assured citizens of the country of its commitment to prevent the entry of persons infected with the deadly virus into the country by strengthening surveillance at five international airports in the country ( Whenayon, 2020).

As part of measures to control the pandemic in Nigeria schools, the government of Nigeria introduced a phased to reopening of schools and commencing with final year students in tertiary



institutions, and junior and senior high schools to enable them prepare for their final examination. While ensuring that they observe Covid-19 safety protocols. However, some students tested positive to Covid-19 after returning to school, which raises concern whether schools have implemented on students to practices covid-19 safety protocols (Walburg, 2020). Despite the emphasis on students to practices covid-19 preventive measures while in school.

The SARS Cov-19 is transmitted through direct contact with respiratory droplet of an infected from touching surfaces contaminated with virus and touching their face like eyes, nose mouth (Zaharia & MCnamana, 2020). The protection of students and educational facilities is particularly important. Williams (2020) opined precautions are necessary to prevent the potential spread of COVID-19 in school settings, however care must also be taken to avoid stigmatizing students and staffs who may have been exposed to the virus. Kaseje (2020) stated that it is important to remember that covid-19 does not differentiate between borders, ethnicities, disabilities, statues, age or gender.

Measures taken by schools can prevent the entry and spread of covid-19 by students and staffs who might have been exposed to the virus, while minimizing disruption and protecting students and from discrimination (WHO,2020). School should educate students on COVID-19 preventive measures, develop a schedule for daily cleaning and disinfection of the school environment, facilities and ensure availability of hand hygiene facilities and national/ local guidelines on the use of masks. fabric masks are recommended to prevent onward transmission COVID-19 in the school particularly where distancing is not possible .This could include the school play grounds or classrooms in some situations, masks may help to protect others because persons may be infected before symptoms of illness appear. The policy on wearing a mask or face covering should be in line with national or local guidelines in the school. Social distancing is still important measures even if a student has been vaccinated. Jeanmonod (2020) stated that the most likely way covid-19 spread is from person to person, primarily between people who came into close contact with one another. And, while COVID-19 vaccine provides strong protection from severe illness, we are still learning just how effective these vaccines are at reducing transmission and against each of covid-19 variants currently circulating. Wearing a mask is also help any potentially infections respiratory droplet that may be released while breathing, talking, or coughing especially when social distance is more challenges and even if the person does not yet know they are sick {Nuwagira & Marcus, 2020}.

Washing your hand Can help reduce the risk of getting sick by touching or contaminating surface and then spreading the virus to your eyes, nose or mouth{Wuhan & Lee, 2020}. Adeboye (2020) No matter how many precautions are being taken at school, gathering a group of students into a classroom will come with some level of risk. Students learn best when in a classroom learning, the center for disease control (CDC) has published the guidelines to help keep schools as safe as possible during the pandemic. It is important to make sure that students are adhering to make recommendations set forth by health officials (White & Jane, 2020).

Knowledge is critical to human quality of life because ability to perform anything depends on what we know or perceive. Therefore, there is need for possession of adequate knowledge by students of Federal College of Dental Technology and Therapy regarding preventive measures of covid-19. Knowledge is the ability to recall or recognize something such as principle, concept (Bola, 2020).



Ayodele (2020) stated that millions of students and general public are exposed to infection by covid-19 virus because they may not possess adequate knowledge regarding covid-19. Preventive measures of COVID-19 will guide the students to be free from not contacting the virus. According to Fehintola (2020), adequate knowledge of preventive measures such as physical distancing, wearing a mask, especially when distancing cannot be maintained avoiding crowds and close contact, cleaning your hands and coughing into a bent elbow or tissue will prevent students not to contact covid-19 infection. However, there is no study that determine the level of knowledge of preventive measures of covid-19 among students of Federal College of Dental Technology and Therapy Enugu State. In view of the danger of COVID-19 infection, it becomes necessary to assess the level of knowledge of preventive measures among the students of Federal College of Dental Technology and Therapy Enugu.

### **Purpose of the Study**

The purpose of the study was to examine the knowledge of preventive measures towards covid-19 among students of federal college of dental technology and therapy Enugu. Specifically, the study sought to determine the:

1. level of knowledge of covid-19 among students of federal college of dental technology and therapy Enugu;
2. level of knowledge of covid-19 preventive measures among students of federal college of dental technology and therapy Enugu; and
3. level of knowledge of covid-19 preventive measures among students of federal college of dental technology and therapy Enugu based on gender.

### **Research Questions**

The following research questions guided the study

1. What is the level of knowledge of covid-19 among students of federal college of dental technology and therapy Enugu?
2. What is level knowledge of Covid-19 preventive measures among students of Federal College of Dental Technology and Therapy?
3. What is level knowledge of Covid-19 preventive measures among students of Federal College of Dental Technology and Therapy based on gender?

### **Hypothesis**

1. There is no significant association on the knowledge of covid-19 among students of federal college of dental technology and therapy Enugu based on gender ( $p < 0.05$ ).

### **Methods**

The descriptive research design was used for the study. The study was carried out in Federal College of Dental Technology and Therapy Enugu. The population of the study consisted of 1,530 students of Federal college of dental technology and therapy Enugu. The simple size for this study is 340 students of federal college of dental technology and therapy Enugu. Simple for the study was selected using simple random sampling technique. The instrument used for data collection was researcher developed questionnaire: titled knowledge of preventive measures of COVID-19 Questionnaire (KPMCQ) which was faced validated by three experts, from Human



Kinetics and Health Education, Enugu State University of Science and Technology Enugu state. The internal consistency of (KPMCQ) was established using split half method (Spearman-Brown coefficient) and a reliability coefficient of 0.85 was obtained and this was considered good enough for the study. The researcher administered copies of the instrument with research assistants. Data collected were analyzed using frequency and percentage to answer research questions while chi-square statistic was used to test hypothesis at 0.05 level of significance. For decision rule, the range of Scores 0-39% was considered as a very low level, 40-59% as moderate level while 50-59% and above was considered high level.

### Results

**Table 1: Frequency and percentage responses on knowledge of covid-19 among students of Federal College of Dental Technology & Therapy {n= 340}**

S/N		Range of Scores	Freq	%
1.	Very Low Knowledge	0-39	95	27.94
2.	Moderate knowledge	40-59	98	28.8
3.	High knowledge	50-100	147	43.2
	Total		340	100

Table 1 revealed that 27.94 percent of the respondents had very low knowledge of COVID-19, 43.2 percent of the respondents had high knowledge, while 28.8 percent of the respondents had moderate knowledge of covid-19 among students of Federal College of Dental Technology and Therapy Enugu state, therefore majority of the respondents had high knowledge of COVID-19.

**Table 2: Frequency and percentage response distribution of the respondents on knowledge of preventive measures of covid-19 (n=340)**

S/N		Range of Scores	Freq	%
4.	Very Low knowledge	0-39	92	27.1
5.	Moderate knowledge	40-59	108	31.8
6.	High knowledge	60-100	140	41.2
	Total		340	100

The finding of the study in Table 2 revealed that, 27.1 per cent of the respondents had very low knowledge, 31.8 per cent of the respondents had moderate knowledge while 41.2 per cent of the respondents had high knowledge of covid-19 preventive measures among students of federal college of dental technology and therapy Enugu. Therefore, majority of the respondents had high knowledge of preventive measures of covid-19.



**Table 3: Knowledge of preventive measures of covid-19 among students of Federal Collage of Dental Technology Enugu based on Gender (n=340)**

S/N	variables	very Lown(%)	moderate n(%)	Highn(%)	Freq.n(%)
	Male	53(49.1)	96(53.3)	30(57.7)	179(52.6)
	Female	55(49.9)	22(42.3)	55(49.9)	161(47.4)
	Overall	52(15.3)	108(31.8)	180(52.9)	340(100)

The finding of the study in Table 3 revealed the level of knowledge of preventive measures of COVID-19 possessed by students of federal college of Dental technology and therapy Enugu based on gender. The male had the highest respondent with High knowledge (57.7%) while majority of the respondent (49.9%) were female had high knowledge. The data implies that gender do not determines the level of knowledge because both gender posses high knowledge of preventive measures of COVID-19.

**Table 4: Summary of the Chi-Square Analysis of Responses Regarding the Knowledge of Preventive Measures of COVID-19 Based on Gender**

S/N	Variable	ALK	MK	HK	X2	crit	df	p-value	De
1	Male	37(36.5)	47 (51.6)	95(108.9)	5.99	2	0.05	not rejected	
2	Female	26(29.8)	42 (42.1)	93(89.0)	2.89				

The findings of the study in Table 4 showed higher proportion of males had high knowledge about preventive measures of COVID-19 while greater proportion of males had high knowledge (108.9%) and high knowledge (89.0%) respectively about preventive measures of COVID-19. The P- 0.25 value was greater than 0.05 level of significance. Hence the null hypothesis was not rejected. This implies that there is no statically significant association in the level of knowledge of covid-19 preventive measures among students of federal college of dental technology and therapy Enugu based on gender. Therefore, the proposition of students in federal college of dental technology and therapy in Enugu that adopted preventive measures of covid-19 is not significant associated based on gender.

### Discussion

Result in Table 1, revealed that of all who have high knowledge of COVID-19 that 147(43.3) which is above the cut-off point of 50 -59% and this implies that students in federal college of Dental technology and therapy have high knowledge of COVID-19. The findings was expected and therefore not a surprise. This is because the students may have required more knowledge of covid-19 infection





through their health education teachers in the college. The finding is in consonance with that of Ayodele (2020) who found that millions of students and general public are exposed to infection of covid-19 because they not possess adequate knowledge regarding COVID-19.

Result in Table 2, revealed that of all who had high knowledge of preventive measures of COVID-19 that 140 (41.2) which is above cut-off point of 50-59% and this mean students in federal college of Dental technology and therapy Enugu possessed adequate knowledge of preventive measures of covid-19, this is expected and therefore not surprising. Because the only reliable way of breaking its transmission of COVID-19 virus is by deliberately following the protective protocols that stimulated for protection. This is because respondents have gained more experience and gather more knowledge in their courses of study in the college. This findings is in conformity with the study of Fehintola (2020) opined that adequate knowledge of preventive measures such as physical distancing, wearing a mask , especially when distancing cannot be maintained, avoiding crowds and close contact ,cleaning your hands, and coughing into a bent elbow or tissue will prevent students not to contract COVID-19 infection.

Result in Table 3, above revealed that all who had high knowledge of preventive measures of COVID-19 that 179 (52.6) were male while that of all who had high knowledge of preventive measures of COVID-19 that 161(47.4) were female. The findings revealed that male possessed high knowledge of covid-19 preventive measures than female , this findings was expected because majority of the males are aware of preventive measures of Coronavirus on radio, social media, and television ,because male usually have time to listening to news. This confirms with the report of Adebisi and Oke (2020) that the successful control of covid-19 infection require change of individual behavior and this influenced by understanding of the characteristics of the disease and its preventive measures of COVID -19 infection.

Result in Table 4, showed that the calculated  $X_{cal}$ -value 2.89 is less than critical value 5.99 with degree of freedom 2, at 0.05 level of significant .Hence the null hypothesis was not rejected. Meaning that there was no significant association regarding the knowledge of preventive measures of Covid-19 between male and female students in federal college of dental technology and therapy Enugu. This is in line with Adeboye (2020) who stated that no matter how many precautions are being taken at school gathering a group of students into a classroom will come with some level of risk. The findings of Williams (2020), also gave credence to this finding, who opined that precautions are necessary to prevent the potential spread of COVID-19 in school settings, However, care must also be taken to avoid stigmatizing students and staffs who may have been exposed to the virus.

### **Conclusion**

The findings have shown that majority of the respondents possessed a high knowledge of preventive measures of covid-19. Also, the study shows no significant association on the preventive measures of COVID-19 based on gender. The study, therefore, concludes that majority of the students in Federal College of Dental Technology and Therapy Enugu state possessed a good knowledge of preventive measures of COVID-19 and that gender was not significant associated with the level of preventive measures of COVID-19.



## Recommendations

Based on the findings and conclusions of the study, the following recommendations were made.

1. Health educators in the school should continue to create public awareness on the importance of voluntary testing in order to increase the number of individuals being tested.
2. Seminars, conference and workshops should be organized and pamphlet distributed to the students in order to address the latest preventive measures or strategies of COVID-19.
3. The school management should ensure the provision of handwashing materials, hand sanitizers, face mask, and other equipment that are designed to effectively curtail the spread of COVID-19 within the reach of the students.

## References

- Adebisi, O., & Oke, A. (2020). Why global control is challenging? Public health. 2020 feb; 176: A1-A2 public medical.
- Adeboye, J. (2020). is sub-saharan African prepared for covid-19? Trop med health. 2020 April, 10, 48: 18.
- Ademola, R. (2020) How a virus is turning the world upside down. BMJ. 2020 April 3, 369: m1336. Pubmed
- Alegbeleye, T.O. (2020). Coronavirus disease (covid-19) Weekly epidemiological and weekly operational update. Accessed on 14<sup>th</sup> June 2020.
- Ayodele, R.N. (2020). Why sub-saharan Africa needs a unique response to covid-19. World economic forum. 2020 mar, 30, 30.
- Bola, N. (2019). Challenges of healthcare delivery in the context of covid-19 pandemic in sub Saharan Africa. Iberoamerican Journal of medicine. 2020 April 15, 2: 100-9.
- Brownstein, R., & Allen, R. (2020). Census politics in Nigeria an examination of 2006 population census. Journal of Policy and Development Studies 2015 May, 28, 1-26
- Fehintola, R. (2020). Capacity building and training needs for community health workers working in health care organizations. Journal of community medical health education 2016, 6 (01): 27-71.
- Jeanmonod, A. A (2020). Infodemic covid-19: more pandemic the virus. Indian Journal of Nephology. 2020, 30 (3):
- Johnson, A.R. (2020). SARS- COV-2 diagnostic testing in Africa: needs and challenges. Pan Africa
- Kaseje, B. (2020). Epidemiology, causes, clinical manifestation and diagnosis, preventive and control os coronavirus disease {covid-19} during the early outbreak period: a scoping review. Infect Dis poverty. 2020 march 17, (1): 29.





- Kenny, J., & Eme, O. A. (2020). A novel coronavirus emerging in China- key question for impact Assessment. *N Engl J Med.* 2020; 382: 692-4.
- Mohammed R. A. (2020)
- Nigeria Centre for Disease Control. (2020). First case of Coronavirus Disease control confirmed in Nigeria .Retrieved 2 November 2020 from [https:// www. Covid-19 pandemic in Nigeria.](https://www.covid-19pandemic.com/nigeria)
- Nuwagina, C., & Marcus, R. (2020). coronavirus disease (covid-2019) Situation reports. 2020. <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/situation-reports> (access Feb. 2020.)
- Preventive and treatment knowledge and attitude towards SARS of urban residents in Qingdao. *Prev. med. Tri* 2010; 10: 407-8.
- Walburg, M.S. (2020). Why does covid-19 disproportionately affect older people? *Aging*, Vol. 12, no. 10, pp. 9959-9981.
- Walter, A A. (2020). people group response to asks in the community .*Chinese Rural Health Services Administration.* 2003,23 :15-8.
- Whenayon, S.O. (2020). COVID-19 outbreak situation in Nigeria and the need for effective engagement of school health workers for epidemic response. *Global Biosafety* ,(4):130-107
- White Janet. (2020). Health promotion competence building in Africa.A call for action .*Global Health Promotion*,16(2), 47-50.
- White, T., & Jane, R.O. (2020). Knowledge, attitude, practices (KAP) forwards Covid-19: a quick cross-section survey among Tanzanian residents, medk xiv, 2020. Wyman M.J(2020)Coronavirus disease 2019 (Covid-19). Retrieved from: [https://africa cdc.org/covid-19](https://africacdc.org/covid-19)
- Williams, R.O (2020). An analysis on reasons of SARS – induced psychological panic among students. *Journal of Anuhui Institute of Education.* 21, 78-10.
- World Health Organization. (2020). Consideration in adjusting public health and social measures in the context of COVID-19. Geneva:WHO
- World Health Organization. (2020). Infection prevention and control during health care when COVID-19 is suspected [https:// www.who .into/publication-detail/infection-prevention-and-control-during-care - when - novel- Coronavirus -\( ncov\)- infection - is - suspected - 20200125](https://www.who.int/publication-detail/infection-prevention-and-control-during-care-when-novel-coronavirus-(ncov)-infection-is-suspected-20200125).Retrieved 25/06/20.
- World Health Organization. (2020). Consideration in adjusting public health and social measures in the context of COVID-19 .Geneva:WHO.
- Wuhan & Lee, J. A. (2020). Nigeria responds to first Coronavirus in sub-Saharan Africa. *The New York Time* .Retrieved 1 November, 2020.



---

Zaharia, V.R., & McNamara, A.A. (2020). COVID-19 facts, Symptoms & prevention  
.www.co.Somerset.nj us/health.Retrieved 19/06/20