Original Research Article

INFORMATION AND KNOWLEDGE SOURCES ABOUT COVID-19 AMONGST FINAL YEAR MEDICAL STUDENTS IN ENUGU STATE, NIGERIA: A CROSS-SECTIONAL STUDY

ABSTRACT

BACKGROUND: Coronavirus disease (COVID-19) was declared a pandemic by the world health organization (WHO) on March 11th 2020. Fortunately and unfortunately, there are various information sources out there; medical students should have optimal knowledge of COVID-19 with all forms of education explored as they would ultimately become the future physicians.

OBJECTIVES: This current study aims to identify the knowledge about COVID-19 amongst final year medical students and various means at which they source their information.

METHODS: This was a cross sectional study conducted amongst final year medical students in the universities in Enugu State, Nigeria. An online questionnaire was distributed amongst the respondents. The SPSS software was used for analysis with p <0.05 as significant.

RESULTS: 84.3% of the respondents first got to know about COVID-19 from the internet amongst others; only 21.9% alluded to being adequately informed about COVID-19.

Amongst those that use the internet as their predominant source of information, about 71.7% of them use Social Media as the preferred means. The most commonly used social media was WhatsApp whereas the most trusted Social Media was Twitter. About 65.5% felt that they have sufficient information about COVID-19 whereas 34.5% said that they do not sufficient information about COVID-19.

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There was significant association between age and preferred social media for assessing information (X2=30.142; df =12; p=0.03). There was no significant association between age and medium chosen as predominant source of information (X2=2.796; df =6; p=0.834).

CONCLUSION AND RECOMMENDATION: Final year medical students showed the expected level of information and knowledge about COVID-19. Medical educators should incorporate social media in medical education especially twitter and WhatsApp, which were the most trusted media of information sources, should be employed in the dissemination of information amongst medical students and the populace in general.

KEYWORDS: COVID-19, Medical students, Information, Social media.

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INTRODUCTION

Coronavirus disease 2019, popularly called COVID-19 is a respiratory infection caused by a novel coronavirus called Severe Acute Respiratory Syndrome coronavirus 2 (SARS-CoV2). The virus is a member of the coronavirus family that are zoonotic pathogens and transmit illnesses between human and several animal species. On 11 March 2020, WHO declared Novel Coronavirus Disease (COVID-19) outbreak as a pandemic and reiterated the call for countries to take immediate actions and scale up response to treat, detect and reduce transmission to save people's lives. [1, 2]

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Evidence showed that people usea vast range of sources to get COVID-19-related information, and their choice of primary source reflects their trust in the legitimacy of these sources and affects their attitudes and vaccine uptake, as also supported by past research on vaccine hesitancy in general.[2]

COVID-19 can present in manifolds of ways ranging from minor symptoms to very severe symptoms. Fever or chills, cough, difficulty in breathing, fatigue, muscle or body aches, headache, new loss of taste or smell, sore throat nasal congestion or runny nose, nausea or vomiting, diarrhea etc. It can also present with a more severe infections like pneumonia, severe acute respiratory syndrome and kidney failure with a mortality rate around 4%. Elderly persons and those suffering from co-morbidities like heart disease, lung disease and diabetes, are at higher risk of developing severe COVID-19 illness. [3,4] COVID-19 spreads primarily from person to person through small droplets from the nose or mouth which are expelled when a person with COVID-19 coughs, sneezes, or speaks. These droplets can also survive on objects and surfaces such as tables, doorknobs and handrails, hence when an uninfected person touches it he/she can contact the virus.[5]

A drug trial was reported done with strong effort by some pharmaceutical companies and countries to develop vaccine which will be an effective preventive measure to avert the upsurge. [3,6]Currently there over 200 vaccine candidates undergoing human trials and many have been certified safe and currently been administered. In Nigeria the comments ones available are Moderna, Pfizer, Gamaleya, Jansssen (Johnson & Johnson), Serum Institute of India Covishield (Oxford/ AstraZeneca formulation), Sinopharm (Beijing) Covilo.[7] Apart from the vaccines, patients who presents with symptoms suggestive of COVID-19 are isolated and treated symptomatically.

A study conducted in six developed countries in April 2020 showed that while the majority of people used official news organizations as their primary source of information, about half of the participants reported also using Google or other online search and social media platforms for COVID-19-related information. Specifically, 25–53% of the participants across

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six countries reported using Facebook to obtain information on COVID-19 at least once over the past week, while 15–46% of the participants used YouTube for the same purpose.[8]

Final year medical students stay at the bridge between the medical education and practice of medicine proper. It is important that such cadre of students have the right access to the appropriate sources of information in order to pass it across to the general community. Most of the information that applies to them also applies to younger doctors and also applies to students in general. Amongst the medical students, the various methods of accessing information about COVID-19 commonly used are forums such as lectures, seminars, through the mass media, online google searches, social media, informal discussions and interactions and a host of others.[9, 10]

This study aimto verify the knowledge level, compare various sources of information and determine the most common medium of information and knowledge sources about COVID-19 amongst the final year medical students in Enugu state, Nigeria.

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MATERIALS & METHODS:

Study Area and Design

This was a cross sectional study conducted in Enugu State, South Eastern Nigeria, amongst the final year medical students in the state. Enugu State has a 2009 estimated population of 3,541,743 at an annual growth rate of 2.8% based on the 2006 population census figures.

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The State shares boundaries with Kogi and Benue states in the North, Ebonyi state to the East, Abia state to the South and Anambra state to the West. The major local language is Igbo and it has a mixture of both Christians and Muslims. There's a huge deposit of coal in

the state and hence popularly called the Coal city state. The State's area code is 042, while its ISO 3166 code is NG-EN. Official website is Enugustate.gov.ng. [11,12]

There are majorly two universities that offersmedicine and Surgery that currently have final year medical students. They are University of Nigeria, Ituku-Ozalla Campus and Enugu State University of Science and Technology ESUT (Parklane). The estimated number of final year medical students is 80 in each of the schools. ESUT Parklane is located in the hub of Enugu city while Ituku-Ozalla is located in far Nkanu West and Awgu Local Government Areas of the state. [13,14]

Study Population and Procedure:

Final year medical students aged 18 years and above were engaged in the study: Questionaires were distributed to the social media platforms of the schools (Mainly via WhatsApp). Responses were obtained from individuals who voluntarily consented to participate by answering the questionnaires. The response rate was 71.5% in this study.

Data Collection and Methods:

Data was collected using a self-administered structured online-based questionnaire created on google forms. The questionnaire design was guided by previous studies done in non-African countries and it was adapted to suit the Nigerian setting.

The questionnaire has two sections: Section one is the Socio-demographic characteristics of the respondents as follows: Institution, age, sex, marital status, religion and ethnicity.

The second section contains the information about COVID-19: as follows; whether they have heard of COVID-19; how they got to know about COVID-19; the medium that was

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predominantly used; the list of media used to access the information, how informed they are about COVID-19, their level of information about COVID-19, and whether they will be open to learning more about COVID-19 and which medium they would prefer.

The type of questions used included: Yes/No questions, four response questions in a form of strongly agree, agree, disagree, and strongly disagree (modified Likert scale) as well as other open questions.

Statistical Analysis

Data analysis was carried out using Statistical package for Social Sciences (SPSS) by IBM and descriptive analyses were conducted to determine frequencies and proportions of categorical variables in the total study sample.

Ethical Consideration

Participants were ensured of the confidentiality of their responses. No means of personal identification of respondents was included in the study tool. Respondents were informed that their participation were voluntary and consent was implied by completion of the questionnaire. Ethical clearance certificate for the study was gotten from the University of Nigeria Teaching Hospital Ethical clearance department.

Elimination of Bias

All forms of survey bias such as non-response, systematic, social, answer-order bias were eliminated by regular contacts with the participants, proper structuring of the questions and using alternating random patterns for the questions.

RESULTS

Social Demographics characteristics of Respondents:

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The study received responses from a total of 114 final year medical students from two tertiary institution; University of Nigeria, UNN, Nsukka, Enugu, Nigeria and Enugu State University of Science and Technology, ESUT, Enugu, Nigeria. (Table 1).

Of the 114 responses, 64.9% responses were from University of Nigeria Nsukka while 35% were from Enugu state University of Science and Technology, ESUT, Nigeria.

Table 1.0- Socio-demographic characteristics of the study participants (n=115)

Variables	**Frequency (n; %)**
Age (y)	
15-20	11(9.6)
21-25	65(56.5)
26-30	36(31.3)
>30	3(2.6)
Sex	
Male	66(57.4)
Female	48(41.7)
Rather not say	1(0.9)
Marital status	
Single	106(92.2)
Married	9(7.8)
Divorced	Nil
Religion	
Christian	96(83.5)
Muslims	17(14.8)
Traditional religion	Nil
None	1(0.9)
Ethnicity	

Igbo	80(72.1)
Yoruba	12(10.8)
Hausa	5(4.5)
Others	16(12.2)

Information and knowledge about COVID-19

Having heard of COVID-19

100% of the respondents said that they have heard of COVID-19.

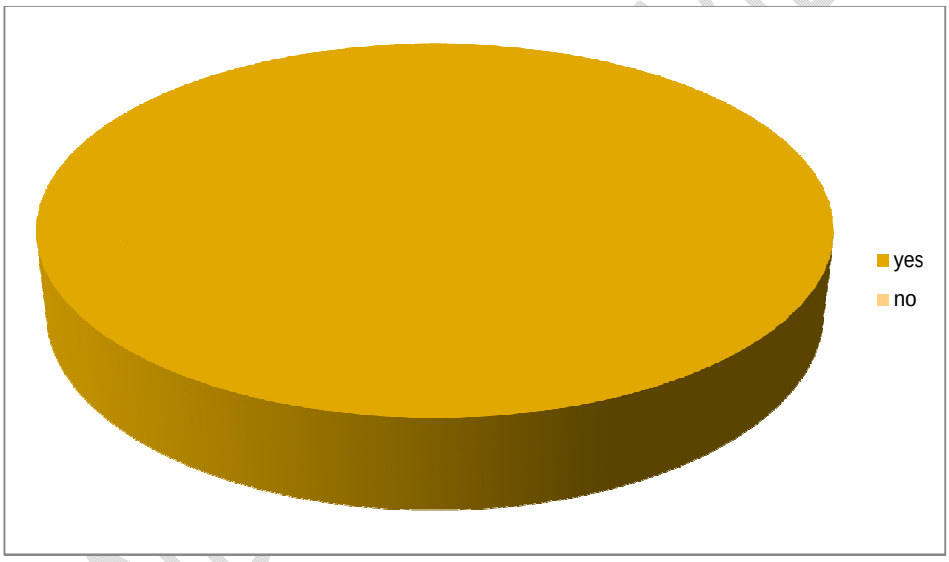

Figure 1- Have you heard about COVID-19?

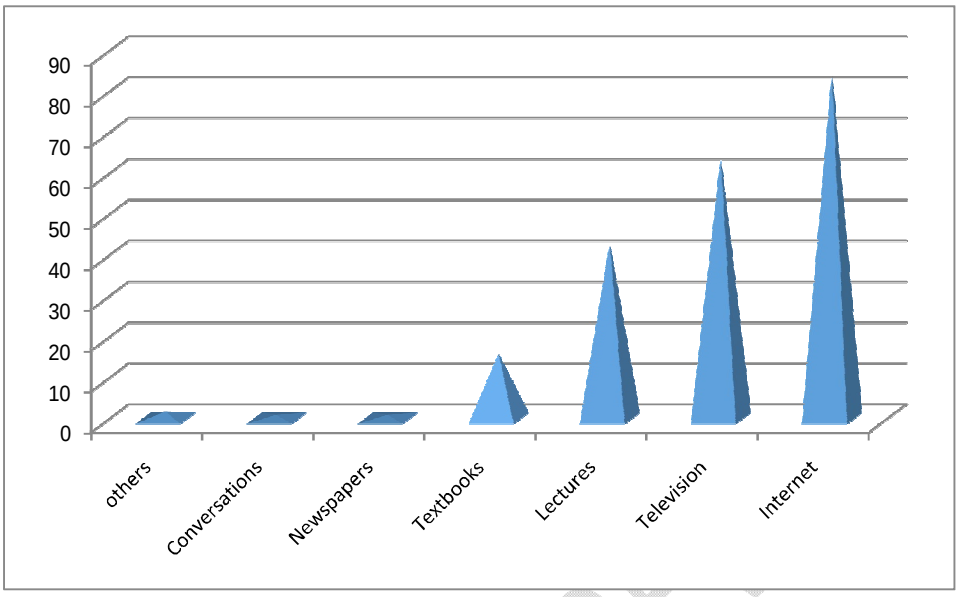

Figure 2.0: where they first got to hear and read about covid-19.

The predominant source of information:

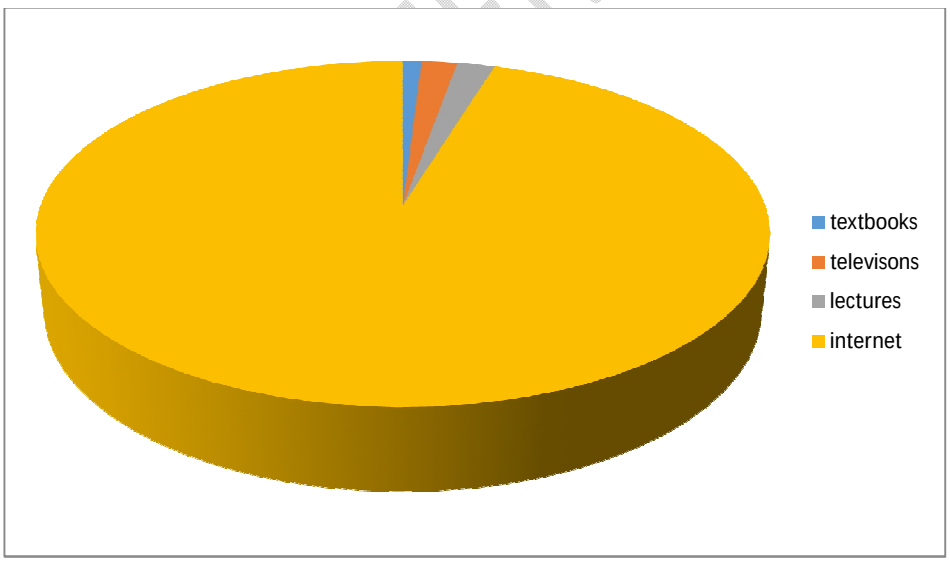

Figure 3.0: Predominant source of information about covid-19(choose as many that applies)

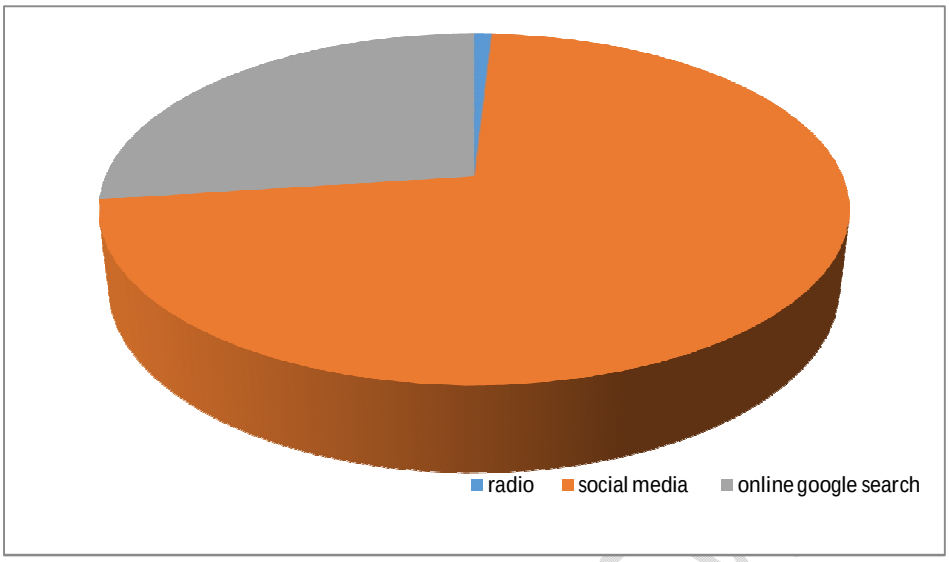

Figure 4.0: Amongst those that chose internet as their predominant source of information.

Among social media, the pattern of distribution

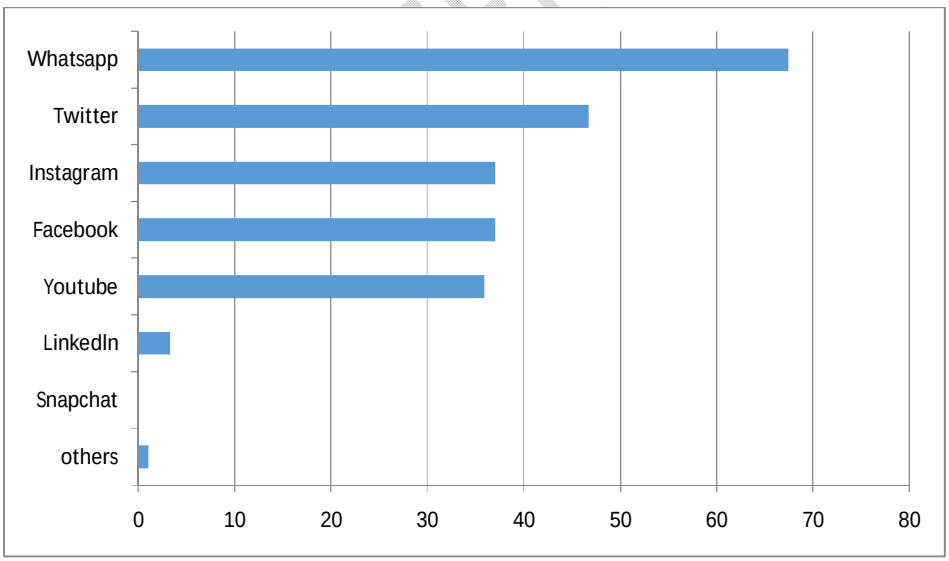

Figure 4a: Distribution of the predominant social media sources of information and knowledge.

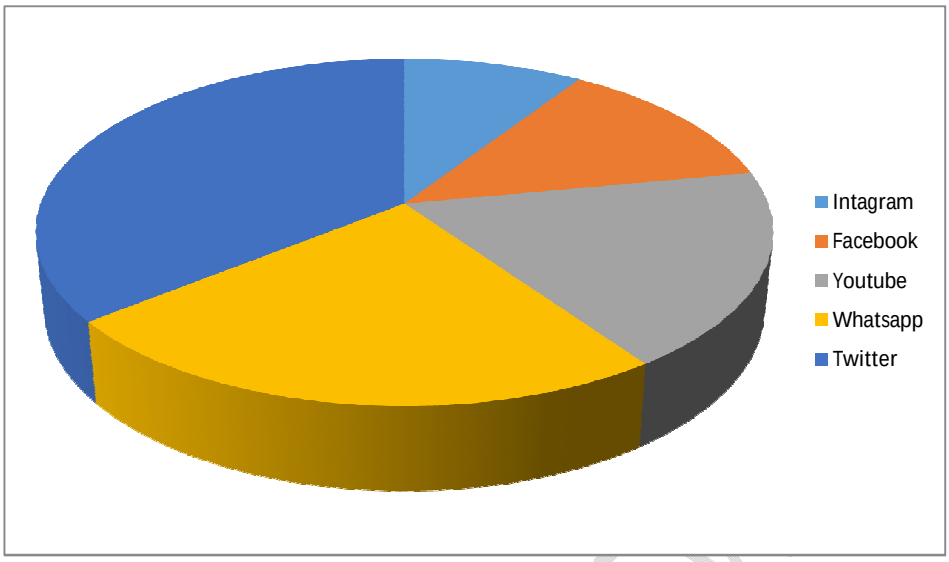

Figure 4b: Distribution of preference and trust amongst the social media.

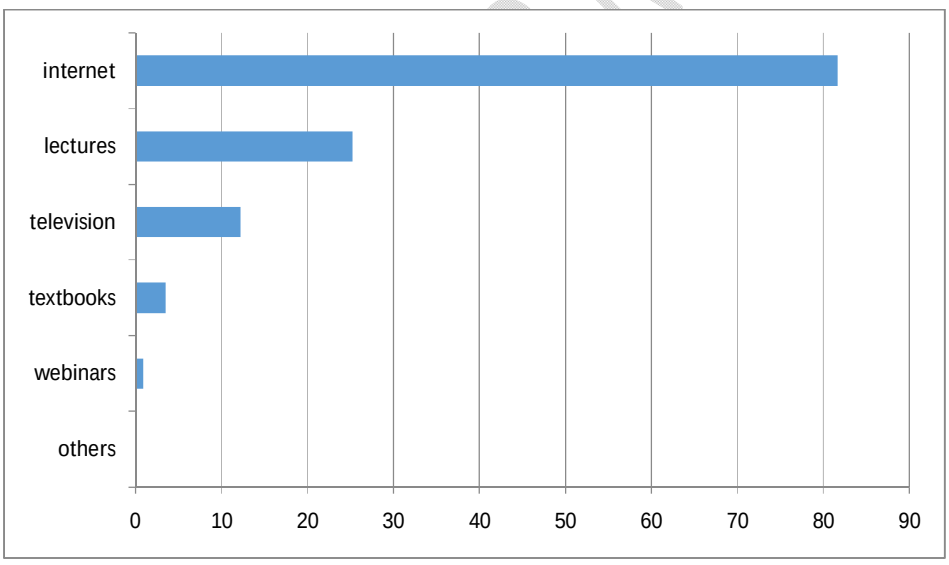

Figure 5.0: The best source of information and knowledge and where they want to get more knowledge about covid-19

There was no significant association between age and medium chosen as predominant source of information (X2=2.796; df =6; p=0.834).

There was significant association between age and preferred social media for assessing information (X2=30.142; df =12; p=0.03)

DISCUSSION

Knowledge and Information about COVID-19

The level of knowledge and information about COVID-19 amongst the participants were high, evidenced by a 100% awareness on covid-19 from our study (figure 1). This high level of knowledge was also found to be high in another study in a Palestinian university students in Basma Salameh et al [15]. This was reflected in the participant's high level of knowledge of symptoms and signs of COVID-19, prevention practices and at risk groups. It was also found to be high amongst medical students in a study by Ashraf I Khasawneh, in Jordan [16] and another study done by T Dahiru et al in Nigeria confirmed the same finding[17].

Our results found no association between the knowledge scores and other variables (p=0.834). In consonance with our study; a study done by MuhktiarBeig et.al in Saudi also found no associations between knowledge scores and other variables.[18]

In our study, as shown in figures 2, 3 and 4, the greater percentage (84%) of our participants first got to know about COVID-19 through the use of internet. The internet also constituted the commonest (88.4%) source of information and knowledge about COVID-19. This was followed by television (8.9%) as the second source of information and then followed by lectures. This study is in contrast with a study done in Nigeria by T Dahiru et al. [18] where the three most common source of information are television, radio and social media in that order.

From our study also, we found out that our participants who used internet did it via online Google searches and social media. Going further, as revealed in figure 4, we noted that amongst the social media that our participants got more information regarding COVID-19 from Whatsapp posts and status updates (67%) followed by Twitter (47.3%), Instagram, Facebook & YouTube at 37.6%, 36.3% and 36.3% respectively but in terms of preference for reliability of facts; twitter was the most preferred and most trusted (36.1%) followed by Whatsapp (24.1%) and YouTube 18.5%. This has a little similarity with a study by Bapaye, J. A et al where Whatsapp constituted the major information source.[19] This findings is also consistent with a study in Palestinian university , by Israa Baker et al, where social media was the predominant source of informant amongst the university students.[20] In our study, Majority use the internet for this further information gathering as shown in figure 5.

About 85.8% of the participants still desire having more information about COVID-19 while 14.2% were not interested in obtaining further information. This is similar to a study done by Huong Thi le et.al[21] where participants were still interested in obtaining for more information.

CONCLUSION AND RECOMMENDATION

Final year medical students showed the expected level of information and knowledge about COVID-19. Various means has been identified with regard to the information and knowledge sources about COVID-19 amongst the medical students.

Traditionally, medical education has been mostly via lecture and classroom and clinical posting based, and seeing the surge in the social media and various other means of getting acquainted with medical and health related information and knowledge, there is a strong need to incorporate those means professionally into the medical education.

Medical educators could target Twitter and Whatsapp which were the most commonly preferred information and knowledge sources from our study as potential extra means of teaching medical students and passing information thereby, going a long way in bridging the knowledge gap between students generally and the health professionals.

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Ethical Approval- This was obtained from the Health, Review and Ethical Committee of the University of Nigeria Teaching Hospital, Enugu, Nigeria

Consent- This was a cross-sectional study and the participants were informed of the purpose of the study before filling the questionnaire.

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