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Knowledge and Attitude towards COVID -19 (Coronavirus Disease 2019) Pandemic among MBBS Students of Second Professional Year of a Tertiary Teaching Hospital in Banaskantha District of Gujarat

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A B S T R A C T

After the declaration of COVID-19 as pandemic by WHO on 11th March 2020, the media – electronic, print and social, was flooded with the information on COVID-19. However, it is important to have correct and precise information for the people to follow the preventive measures. Thus considering our medical students of second professional year as source of information to the community it was important to assess their knowledge and attitude towards this health crisis in the country. Faculty prepared questions to assess knowledge and attitude of the students. Also a feedback at the end of the study was taken from the students. A total of 116 students, out of the class of 147 students, participated voluntarily. Almost 96.6% knew what 2019n-Cov stands for but only 60.3% knew the exact full form of COVID-19; 77.6% chose transmission modes correctly; 96.6% knew the incubation period, 67.2% were aware of the diagnostic methods, 99.1% agreed that the people having history of travel to countries affected with COVID-19 should be quarantined for 14 days; 20.7% thought that covering nose/mouth while sneezing/coughing with bare hands is a cough etiquette, 88.8% & 64.7% knew the definitions of pandemic & stage 3 transmission respectively; 85.3% expressed the need of correct information from teachers/institution. The analysis of the responses indicated that the students had adequate information yet some aspects needed to be corrected to prevent the spread of wrong information in the community. Hence an online class was conducted to give the correct information and to resolve their queries. A feedback on the study was also obtained. Almost all the student agreed that this study and the online session gave them the opportunity to learn more about COVID-19 pandemic.

Introduction

What emerged at close of 2019 as pneumonia of unknown origin in Wuhan City of Hubei Province in China evolving to cluster of pneumonia of unknown origin and eventually identified as novel coronavirus i.e. 2019-nCoV with reference to other coronaviruses

such as SARS (Severe Acute Respiratory Syndrome) and MERS (Middle East Respiratory Syndrome) viruses was declared as public health emergency by WHO on 30th January 2020 and subsequently named as COVID-19 (Corona Virus Disease 2019) on 11th February 2020to guard against the use of other names which may be stigmatizing (WHO/Events as they happen) and which initially was believed to be spreading through bats with no human-to-human transmission lead to a deadly pandemic killing a number of people across the globe due to virus spreading through micro & macro droplets as well as fomites. During the media briefing on March 11th, 2020, the WHO Director General, informed that on the basis of its assessment of the alarming levels of spread and severity the COVID-19 should be characterized as pandemic(WHO News Press March 2020).

Hence after this declaration the countries all over the world got alert and started taking measures to prevent the entry of this virus into their countries including India; screening of people for fever and other symptoms like cough or shortness of breath at the time of entry into the country after travel from places where COVID-19 cases had been reported and asking people to self-quarantine themselves for at least 14 days (in view of the incubation period of this virus). Later with the gradual increase in numbers of cases and then to prevent further increase in the numbers, a total lockdown of 21 days across the country was finally declared on 25/03/2020. Thus during this lockdown a lot of information from all different sources was available on COVID-19. But what was important for the common man was the authentic and precise information which is easy to understand and implement.

Considering that our medical students of second professional year were also a source of information in their close circles, society or community, this study was planned to assess their knowledge and attitude regarding COVID-19. Thus a questionnaire based study was done and later an online lecture was conducted to rectify the mistakes, bust the myths and provide right information to our students.

Materials and Methods

This study was carried out by Department of Microbiology, Banas Medical College & Research Institute, Palanpur (BMCRI-Palanpur), Banaskantha, Gujarat after the ethical approval.

Study design: Cross sectional, educational

Inclusion criteria:

Medical Students of BMCRI-Palanpur

Students of the Second Professional Year

Any gender

Any nationality

Living in India

Exclusion Criteria:

Students of the other professional years

Not living in India

Out of the study period

Late submitted responses

All the faculties were first informed about the study and were asked to submit questions regarding COVID-19, for assessing both the knowledge and attitude. The questions were scrutinized by the faculty together and then the final list of questions was prepared in the Google forms after peer validation and a link

for the same was generated. The survey questionnaire had total of 25 questions and was divided into 3 main sections with the first section explaining the purpose of the study and the information on confidentiality and right to choose to participate in the study; the second section had 18 knowledge-based questions related to virus structure, transmission, prevention, diagnostic methods etc. and the 3rd section had 7 attitude-based questions related to the perceptions and opinions of students regarding the government policies and practices for COVID-19.There were a total of 25 questions and each question was marked as essential/required so that no question is missed and the responses for each question could be submitted by clicking submit.

The students were briefed about the study through online platform used for teaching during the lockdown period and the link to the Google form was shared with the students through Google Classroom.

The students were given a time of 30 minutes for submission of their responses. After the 30 minutes of sharing the form link, the responses were no more accepted. This was done to prevent students from using any kind of aid during submission of their responses and fair assessment could be done.

Out of the total of 147 students in second professional year, 116 students participated voluntarily and submitted their responses on time.

These responses were included for analysis. Statistical sample size calculation was not done, as the students were allowed to participate voluntarily from a fixed group of students i.e. only the medical students studying in second professional year of our college (N=147).

Results and Discussion

Of the total 116 participants, 84 (72.4%) were males and 32 (27.6%) females. Most of the students performed well on the knowledge based questions related to basics of virus name, structure, modes of transmission, methods of prevention etc. i.e. 60.3% and 96.6% students knew the correct full form of COVID19 (Coronavirus Disease 2019) and 2019 n-CoV (Novel Corona Virus) respectively (Figure 1); 72.4% answered correctly that Corona virus is RNA virus and only 41.4% knew that Corona virus is an enveloped virus. With respect to modes of transmission, 77.6% chose 'all of the above' option correctly whereas others wrongly chose single options over 'all of the above'. As shown in Figure 2, 96.6% knew that the incubation period for the Coronavirus is 2 to 14 days. For information, 76.7% relied on television, 71.6% on internet/search engines followed by 69% on social media whereas 44% relied on teachers/institution for the information and only 12.1% relied on posters/hoardings/banners used by government for spreading awareness among the population/community at large (Figure 3).

Regarding methods of prevention 97.4%, 94%, 89.7% and 87.9% chose social distancing, washing hands frequently with soap and water, properly sanitizing the surfaces and objects, avoiding touching face, nose and face as well as avoiding public transport respectively. As far as the testing methods were concerned, 67.2% students correctly selected all of the above option whereas 17.2%, 14.7% and 1% chose only rapid antibody test, Real Time RT-PCR and CBNAAT/TrueNat (cartridge-based nucleic acid amplification test, modified for COVID-19 by Molbio Diagnostics) respectively.

With respect to lockdown period in the initial stage of COVID-19 pandemic, the people

(with or without symptoms) travelling from other countries/regions reporting COVID-19 cases were screened on arrival and were quarantined for 14 days, a policy adopted by the government to contain and prevent spread of the virus in the country, to which 99.1% students agreed and 0.9% did not agree.

To the question that virus cannot be transmitted in hot climate countries, 77.6% selected the option False over 12.9% and 9.5% who selected 'Don't know' and 'True' respectively.

In regards to the full form of PPE - 93.1% chose Personal Protective Equipment correctly whereas 95.7%, 81.9%, 80.2%, 79.3% chose all the correct options like HCWs attending the COVID-19 patients, laboratory personnel testing samples of COVID-19, sweepers or cleaners working in the COVID-19 facilities respectively should wear PPE and there was also a percentage of students i.e. 30.2% and 24.1% who felt that government officials attending meetings and the common healthy individuals going to market/shopping should wear PPE.The percentage of students who were aware of the fact that nose and mouth should be covered with a tissue/ handkerchief/towel while coughing/sneezing or covering nose and mouth with a flexed elbow while coughing or sneezing as a part of cough etiquette was 78.4% and 58.6% respectively. In response to whether they know all the steps of hand washing and for how many minutes/seconds they should wash their hands, 96.6% and 92.2% respectively appeared to be cognizant with the hand washing. A total of 89.7% students agreed that the spread of COVID-19 virus can be effectively reduced by isolation and treatment of people who are infected; whereas 3.4% disagreed and 6.9% were not sure of it. It was observed that 88.8% and 64.7% students knew the correct definitions of pandemic and stage 3 of coronavirus transmission respectively. With respect to the attitude based questions 95.7% students agreed to the government's decision to lock down the entire nation to help reduce the spread of coronavirus whereas 4.3% disagreed. Also 81.9% students felt that India will be able to overcome this health crisis whereas 2.6% were of the opinion that India will not be able to overcome this health crisis and the rest were not sure. A total of 56.9% students agreed that the fear of acquiring COVID-19 infection has affected the mental health and social life of people in general whereas 25.9% were of a neutral opinion about the same; 9.5% strongly agreed to it, 4.3% strongly disagreed and 3.4% disagreed to the statement respectively. Though a greater percentage of students i.e. 93.1% were of the opinion that people should not start travelling by public transport after the lockdown yet a small percentage of students i.e. 6.9% thought that people should start travelling by public transport after the lockdown. It was also noted that 63.8% students agreed that they 'sometimes' believed, whereas 19% 'often' believed, 12.9% 'never' believed and 4.3% 'always' believed on the information spread on social media.

Thus from this study we found that some clarification and information should be given to students so that they have the right information which will help them, their families as well as people around them who seek help or advice from these students. Thus an online class was conducted for all the students during which all the questions were discussed with their answers with added information as well as the queries raised by the students were resolved. A feedback on this study and online session was taken with a yes/no response to the questions.

Fig.1 Percentage response for the full form of COVID19

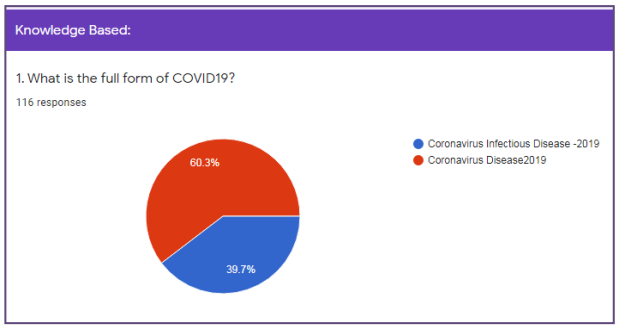


Fig.2 Incubation period of virus

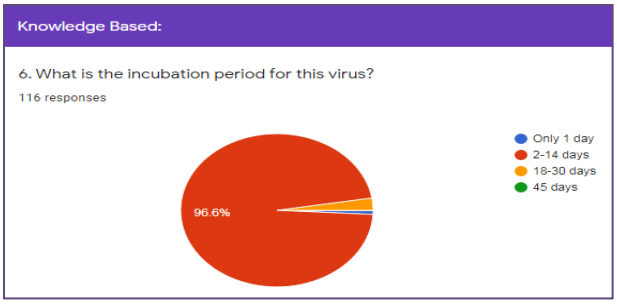


Fig.3 Source of information

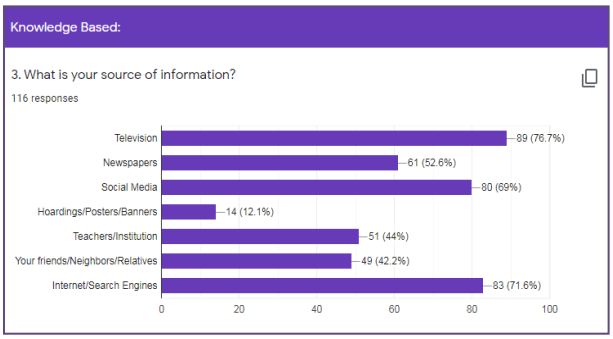
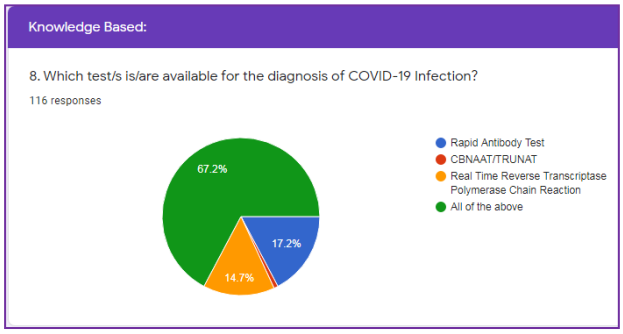


Fig.4 Tests available for diagnosis of COVID-19



All the students agreed that this study gave them an opportunity to assess their knowledge and learn more regarding COVID-19 pandemic. Also 95.9% and 91.9% found this session very helpful and felt that they were more confident and had satisfactory information on transmission and prevention of COVID-19.

The pandemic was at its peak by April-May 2020 and lockdown was extended. It was extremely important during this period that people (general population) understood the ways in which the virus was spreading and also the measures which were taken by the government in order to prevent the transmission because only when people will understand the basis of it, then will they be able to comply. Hence government had tried in every way to spread awareness regarding it including the caller tunes which gave all the information on 'dos' & 'don'ts' during this period. This holds the relevance even today i.e.2021.

During this period the teaching was continued through online platforms and our department felt that if the students' knowledge and attitude towards COVID-19 are studied, it will give us the information regarding what is known to them, what is not known and what are the misconceptions they have which can later be corrected and provided to them through one of our online sessions. This in turn will help students to spread awareness and give correct information to those who seek their help or advice. Thus, training people at different levels and in whatever numbers and ways possible would help spread awareness and help people to comply with the implementation of the preventive measures - probably the most important measure of prevention.

Overall, 77.6%correctly knew about the ways in which the virus was spreading. Also regarding methods of prevention 97.4%, 94%, 89.7% and 87.9% chose social distancing, washing hands frequently with soap and water, properly sanitizing the surfaces and objects, avoiding touching nose and face, as well as avoiding public transport respectively. This implies that the majority knew how to prevent themselves from contracting infection and to guide and help their family members, neighbors and anyone who seeks advice. These findings are comparable to the study from Mumbai by Pranav Modi *et al.,* (2021) and Jordan by by Alzoubi Hamed *et al.*, (2020).

A total of 89.7% students agreed that the spread of COVID-19 virus can be effectively reduced by isolation and treatment of people who are infected; whereas 3.4% disagreed and 6.9% were not sure of it. Though the students were not involved or came in contact with patients (directly or indirectly) for management, as they were at their homes during lockdown, but definitely knowing this meant that they can guide people to isolate themselves, if they suspected infection or had any symptoms of infection.

Hand washing is a very important measure in prevention of any infection and was considered critical for COVID-19 by CDC[4] (2020); 96.6% and 92.2% respectively appeared to be cognizant with all the steps of hand washing and also for how many seconds they should wash their hands. These findings are comparable to Alzoubi Hamed *et al.*, (2020).

Also a majority were confident that India will overcome this health crisis and the lockdown was the correct decision.

The overall findings of our study are comparable to studies from Mumbai by Pranav Modi *et al.,* (February 2020), China by Bao-Liang Zhong *et al.,* (2020) and Huynh Giao *et al.,* (2020) and Jordan by Alzoubi Hamed *et al.,* (2020).

Overall results of the study revealed that the students had adequate information regarding COVID-19 pandemic as well as on the measures to prevent them. Also the findings revealed that their attitude towards COVID-19 was more pragmatic and optimistic. The

feedback revealed that they had willingness to learn more about it and also to get clarification on the aspects which were either not covered in the study as well as those which were incorrect. For any nation to overcome any kind of crisis, it is important that its youth understands the crisis and follows all the measures to overcome such crisis. Same is true in case of COVID-19 as well and thus such health education programs aimed at improving knowledge regarding COVID-19 are helpful for all, especially the medical students and other healthcare students, to hold pragmatic approach and follow appropriate practices for effective prevention and control.

References

Bao-Liang Zhong, Wei Luo, Hai-Mei Li, Qian-Qian Zhang, Xiao-Ge Liu, Wen-Tian Li, Yi Li1, 2020. Knowledge, attitudes, and practices towards COVID-19among Chinese residents during the rapid rise period of the COVID-19 outbreak: a quick online cross-sectional Survey. *Int. J. Biol. Sci.* 2020, Vol. 16. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7098034/pdf/ijbsv16p1745.pdf

Events as they happen: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/events-as-they-happen

Hamed Alzoubi, Nedal Alnawaiseh, Asma'a Al-Mnayyis, Mohammad Abu- Lubada, Amin Aqel and Hani Al-Shagahin, 2020. COVID-19 - Knowledge, Attitude and Practice among Medical and Non-Medical University Students in Jordan, *J. Pure Appl. Microbiol*., 2020; 14(1):17-24. Available from: https://doi.org/10.22207/JPAM.14.1.04

Hand hygiene Recommendations-Guidance for healthcare providers about hand hygiene and COVID-19. Available from: https://www.cdc.gov/coronavirus/2019-ncov/hcp/hand-hygiene.html

Huynh G, Nguyen T N H, Tran V K, Vo K N, Vo V T, Pham L A 2020. Knowledge and attitude toward COVID-19 among healthcare workers at District 2 Hospital, Ho Chi Minh City. Asian Pac J Trop Med 2020; 13. doi: 10.4103/1995-7645.280396. Available from: https://www.researchgate.net/publication/340413844_Knowledge_and_attitude_toward_COVID19_among_healthcare_workers_at_District_2_Hospital_Ho_Chi_Minh_City/link/5e875ef4a6fdcca789f0edb9/download

Modi P D, Nair G, Uppe A, *et al.,* 2020 COVID-19 Awareness Among Healthcare Students and Professionals in Mumbai Metropolitan Region: A Questionnaire-Based Survey. Cureus 12(4): e7514. DOI 10.7759/cureus.7514. available from: https://assets.cureus.com/uploads/original_article/pdf/29822/1587911551-20200426-26002-1h45nx0.pdf

WHO News Press: COVID19 Pandemic:https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020.

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