

# A CROSS SECTIONAL STUDY ON KNOWLEDGE AND PERCEPTIONS OF MEDICAL STUDENTS ABOUT COVID-19 PANDEMIC

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## Abstract

**Introduction:** The spread of COVID-19 pandemic globally has left us with many unanswered questions about the spread, modality of treatment and preventive measures to be taken to reduce its spread. Lack of sufficient knowledge about the virus and the lack of clarity about preventive measures has led to lot of confusion about healthcare practices. First year medical students although not involved in treatment of COVID-19 patients they can act as information providers and sensitize the community about the pandemic. Hence the present study was taken up among first year medical students.

**Aim:** To assess the basic knowledge about Novel Corona virus disease and its spread and clear the myths among them regarding COVID-19.

**Materials and methods:** A cross sectional survey was conducted among first year medical students belonging to 2019-20 batch. Data was tabulated using Microsoft office excel sheet and the response were expressed as total count and percentages distribution. Data was analyzed using EPI INFO (Version 7).

**Results:** Majority of the study participants have good knowledge about the virus, origin of the first case and mode of spread. 92.25% of the study participants knew that elderly and people with comorbidities were more prone for coronavirus disease. 100% of the study participants knew that RT-PCR test has the diagnostic test for COVID-19. The entire study participants knew about non availability of a vaccine to prevent COVID-19 infection and some vaccines were in different stages of clinical trials.

**Conclusion:** The students of first year MBBS have good background knowledge and awareness about coronavirus disease which will help us to use them as the information providers to sensitize community people about various preventive measures one has to take to prevent the spread of COVID-19 pandemic.

**Keywords:** COVID-19 pandemic, awareness, RT-PCR, close contact, vaccine

## Introduction

Corona virus belong to a family of viruses that sometimes cause serious and fatal lung diseases like severe acute respiratory syndrome [1]. The first case of SARS-Corona virus was identified in Guangdong province of China in the year 2002 which initially started as animal to human spread and then progressed into human to human spread [2]. A similar epidemic caused by Middle East respiratory syndrome corona virus (MERS-CoV) which spread to humans from camels appeared in Saudi Arabia in the year 2012 where patients experienced similar symptoms but the disease had higher fatality rate than the earlier SARS-CoV infection [3]. Similar cases resembling earlier SARS-CoV infection were reported in the Wuhan city of China in December 2019 and the virus was identified as a new form of corona virus and the disease was called by WHO as COVID-19 [4]. The new corona virus had resemblance to bat corona virus hence it was suspected to have spread from bats to human contact [5]. COVID-19 was declared as a public health emergency by WHO on January 30<sup>th</sup> 2020 and with the further spread it was declared a pandemic on 11<sup>th</sup> of March 2020 [6]. At the time of the study according to WHO COVID-19 Weekly Epidemiological Update there were 62.36 million confirmed cases reported globally with 1.4 million deaths. At the same period of time according to WHO India situation report, India reported 9.4 million confirmed cases with 1,37,139 deaths [7]. The spread of corona virus infection occurs through direct physical contact, respiratory droplets and fecal-oral route with an incubation period of 2 to 14 days [8]. The common symptoms of corona virus includes fever, cough, myalgia, fatigue and difficulty in breathing [9, 10]. CDC guidelines recommended to prevent spread of infection include maintenance of hand hygiene, wearing masks and avoidance of close contact with people showing any kind of respiratory symptoms [10]. With no vaccine available till date disease prevention by taking steps to safeguard oneself and limit the spread of infection is the only viable option available to us. Health care workers and medical students who are a part of health care delivery system are at a higher risk of contracting the infection when compared to the general population at large. First year medical students although not involved in treatment of COVID-19 patients they can act as information provider and sensitize the community at large about the measures needed to be taken to prevent spread, reassure

the community and spread awareness about the disease. Hence the present study was taken up among first year medical students belonging to 2019-20 batch of Sri Siddhartha Medical College, Tumkur to assess the basic knowledge about Novel Corona virus disease and its spread and clear the myths among them regarding COVID-19.

## Materials and Methods

A cross sectional survey was conducted among first year medical students belonging to 2019-20 batch of Sri Siddhartha Medical College, Tumkur in the first week of December 2020. All 150 students belonging to the batch were enrolled in the study and a response rate of 94.66% was achieved. Nature and purpose of the survey was explained to all the participants. The procedures followed were in accordance with the ethical standards of the institutional ethical committee on human experimentation and with the Helsinki Declaration of 2013. A validated self-structured questionnaire was provided to the participants and confidentiality was maintained throughout the survey.

## Statistical analysis

Data was tabulated using Microsoft office excel sheet and the response were expressed as total count and percentages distribution. Data was analyzed using EPI INFO (Version 7).

## Results

**Table 1:** Age and gender distribution (n = 142)

	Mean	Standard deviation
Age	18.52	0.27

  

Gender	Frequency	Percentage
Female	78	54.92
Male	64	45.07

**Table 2:** Knowledge about novel Coronavirus among study participants (n = 142)

Questions	Correct Response (%)	Wrong Response(%)
What is the virus that causes COVID-19 infection called?	100	00
Where was the first case of corona virus infected detected?	97.88	2.11
What is the main mode of transmission of the virus from person to person?	89.43	10.56
Which of the following is considered a "close contact"?	85.91	14.08
Who are more prone to COVID-19?	92.25	7.74
What is the incubation period of COVID-19?	83.09	16.90
What are the symptoms of COVID-19?	98.59	1.40
Can a person have COVID-19 without symptoms?	95.07	4.92
What are the diagnostic tests for COVID-19?	100	00
What is the minimum distance to keep when talking to prevent corona virus?	97.88	2.11
How to clean hands with soap and water?	97.18	2.81
What is the duration of home isolation for asymptomatic and mild cases of corona virus infection?	95.77	4.22
What is the duration of quarantine for individuals who were exposed to patients of corona virus disease?	95.77	4.22
Is there a vaccine available to prevent COVID-19 infection?	100	00

150 first year MBBS students were approached for the study and we obtained 142 responses with a response rate of 94.66%. Table 1 shows the students demographics which includes age and gender distribution as a total count and percentage. The mean age of the study population was 18.52. Females formed 53.33% of study population, males participants were 70 in number forming 46.66% of study group.

Table 2 which shows the responses recorded regarding knowledge about novel coronavirus shows that majority of the study participants have good knowledge about the virus, origin of the first case and mode of spread. 92.25% of the study participants knew that elderly and people with comorbidities were more prone for coronavirus disease. 100% of the study participants knew that RT-PCR test has the diagnostic test for COVID-19. The entire study participants knew about non availability of a vaccine to prevent COVID-19 infection and some vaccines were in different stages of clinical trials.

## Discussion

The spread of COVID-19 pandemic to India received massive mass media attention about the virus. With very few limited studies available to assess the knowledge and perceptions about COVID-19 this study was taken up to assess the knowledge and perception of first MBBS students who can act as information providers to the community people and help indirectly managing COVID-19 patients and also play a role in prevention of spread of Coronavirus disease. 100% of the study participants knew about the virus which causes the COVID-19 infection. In contrast to our study findings in another study done among medical students in colleges of southern India the correct response regarding the virus which causes the COVID-19 infection was 27.7%<sup>[11]</sup>.

97.88% of the study participants knew about the place of detection of first case of coronavirus. Similar findings were reported in a study done by Ibad Sha I among final year medical students<sup>[11]</sup>.

In our study 89.43% of the students knew about the mode of transmission of virus from person to person. Similar findings were reported by two other studies done by Abdel Hafiz AS *et al.* and Zhongn BL *et al.*<sup>[12, 13]</sup>.

In contrast to our study findings only 39% of the participants knew about the transmission modes of coronavirus in a study done by Bhagavatula AS among healthcare workers.

Contact tracing followed by isolation of the close contact is recognized as one of the important measure to break the chain of transmission of COVID-19 infection<sup>[14, 15, 16]</sup>. CDC defines close contact as any individual who is at a distance of less than 6 feet from the infected person with an exposure time of at least 15 minutes<sup>[17]</sup>. In our study 85.91% of study participants knew about the guidelines of the CDC regarding who are close contact. 97.88% of study participants were able to correctly mention the minimum distance one has to keep during conversation to prevent the spread of coronavirus.

92.25% of study participants identified that elderly and patients with chronic diseases are at a higher risk of contracting COVID-19 infection. Similar findings were reported by another study done in Egypt<sup>[12]</sup>. Where 95% of the study participants believed that elderly patients are at an increased risk.

83.09% of study participants correctly identified the range of incubation period of the virus as 2-14 days and 98.59% of study participants identified the common symptoms of COVID-19 infection. Few other studies done have identified other less common symptoms of COVID-19 infection which are headache, anosmia, myalgia and diarrhea<sup>[18, 19]</sup>. 95.07% of study participants rightly believe that a person can remain asymptomatic after getting infected from coronavirus. In another study done in Medical and Allied science students in India, 40% of the students correctly identified that a person infected with novel coronavirus can remain asymptomatic<sup>[20]</sup>.

All the 142 (100%) study participants correctly identified the diagnostic test for COVID-19 infection.

97.18% of the students were aware of how to clean the hands with soap and water. WHO guidelines suggest that an healthcare worker should clean their hands using soap and water for at least 20 seconds or use 60-95% alcohol based disinfectant to clean the hands<sup>[21]</sup>.

95.77% correctly identified the duration of home isolation for asymptomatic and mild cases and duration of quarantine of individuals who were exposed to patients of coronavirus disease.

All the 142 (100%) of study participants knew about non availability of a vaccine to prevent COVID-19 infection and some vaccines were in different stages of clinical trials.

## Conclusions

The rapid spread of coronavirus pandemic globally and in India creates a need to generate good awareness about the virus, its mode of spread, identifying the people with increased risk, clearly define the clinical symptoms and preventive measures which are available to prevent the spread of the pandemic. Our findings suggest that the students of first year MBBS have good background knowledge and awareness about coronavirus disease which will help us to use them as the information provider to sensitize community people about various preventive measures one has to take to prevent the spread of COVID-19 pandemic.

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