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## The Pandemic 2019- Awareness Among Medical Students-A Cross-Sectional Survey

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### INTRODUCTION

The year 2019–2020 has seen a worldwide pandemic due to Severe Acute Respiratory Syndrome (SARS) Coronavirus 2 (COVID-19). As the risk of COVID-19 became more widespread the World Health Organization (WHO) on January 30, 2020, declared COVID-19 a Public Health Emergency and a Pandemic on March 11, 2020<sup>[1]</sup> The current pandemic scenario has put up an immeasurable burden on health care services. As we are approaching the epidemiological peak, the health care system of our country is also reaching a breaking point. With no signs of any vaccine or an antiviral treatment launched in the market for the prevention or management of COVID-19, it becomes imperative that we plan on building an efficient contingency workforce to prevent the disruption of the health care system.

It is high time, the role of medical students in the clinical environment needs to be reassessed. Medical students are considered as trainees and in this pandemic situation, they have been kept out of the picture fearing the risks involved to them. But recognizing the possibility that COVID-19 pandemic can result in health care worker shortage the students need to be embedded in the clinical environment. Since it is a novel virus, the guidelines are often changing and it is a challenge for the medical community to keep up with this change.<sup>[2]</sup> Though medical students are not directly involved in managing COVID-19 patients, they can serve as information providers. Low-risk activities like volunteering in information cells, creating patient education materials, spreading awareness etc. could be undertaken by medical students. Based on this backdrop, the overarching purpose of this study is to analyse the awareness of medical student regarding the COVID-19 pandemic.

### OBJECTIVE

1. To assess the knowledge and awareness of medical students regarding the latest guidelines on COVID-19.

### METHODOLOGY

A web-based cross-sectional survey was conducted using a “Google Form” to obtain responses from 500 undergraduate medical students (first to final years) in a tertiary care center at South India. The study was carried out following the Checklist for Reporting Results of Internet E-Surveys (CHERRIES) guidelines.<sup>[3]</sup> Informed consent was obtained from each participant before answering the survey questions and they were requested to provide authentic answers. A survey comprising 13 closed-ended questions (in the English language) formulated using reference material, fact sheets and information leaflets on COVID-19 developed by WHO, CDC, ICMR, MOFHW. It covered the domains of general awareness and knowledge on the latest guidelines COVID-19. The developed draft questionnaire was validated by the faculty for clarity, significance, and acceptability. The final survey link was distributed via various media platforms among the students and the data was collected during the following 3 days. A Total of 206 medical students responded to the survey and the collected data were entered into Microsoft Excel and Descriptive statistics was applied to calculate proportions and frequencies. Statistical analysis was performed using SPSS software version 21.

**RESULTS**

<b>Gender Distribution</b>	Male	60(29%)
	Female	146(71%)
<b>Age Distribution</b>	18 years	6
	19 years	21
	20 years	48
	21 years	59
	22 years	35
	23 years	31
	24 years	6
<b>Year wise classification</b>	1 <sup>st</sup> year	71(34.5%)
	2 <sup>nd</sup> year	27(13.5%)
	3 <sup>rd</sup> year	71(34.5%)
	4 <sup>th</sup> year	36(17.5%)

Table 1: Responder profile

Among the 206 responders, 146 (71%) were female students and 60 (29%) were male students. The majority of them were between 20-22 years (n= 142) and from 1<sup>st</sup> and 3<sup>rd</sup> years (70%)

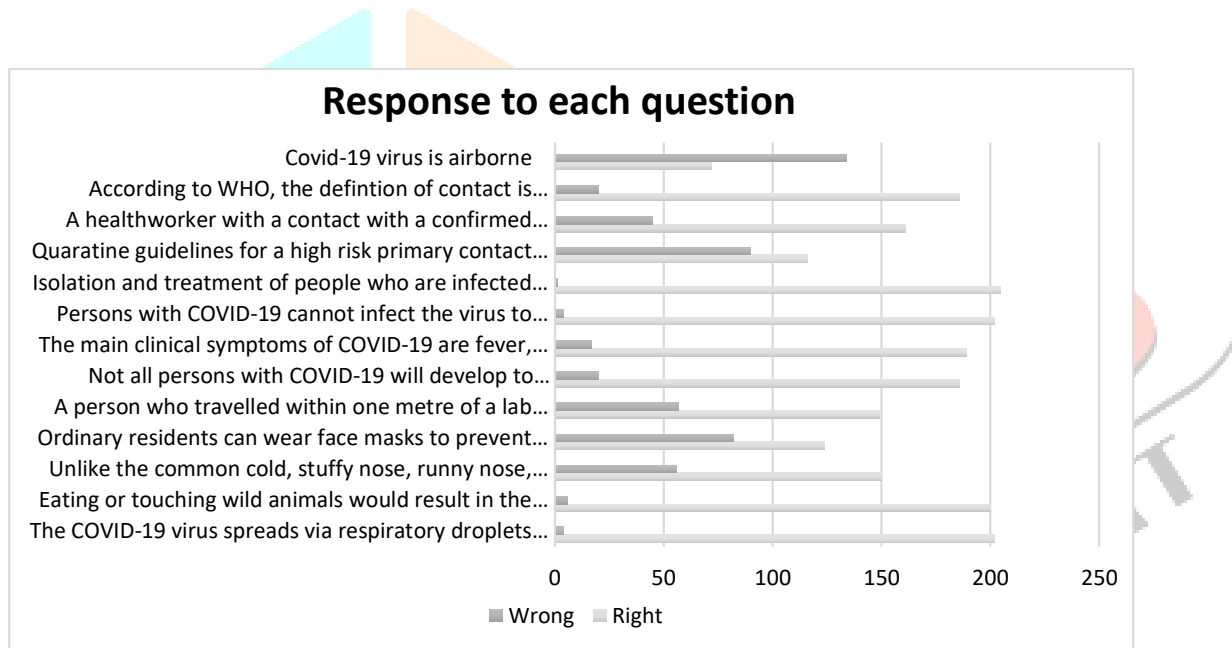


Figure 1: **Response to each question**

Figure 1 shows the response to each question. On evaluating the results from the sample size of 206, the Mean score was 10.4 with a median range of score 10.

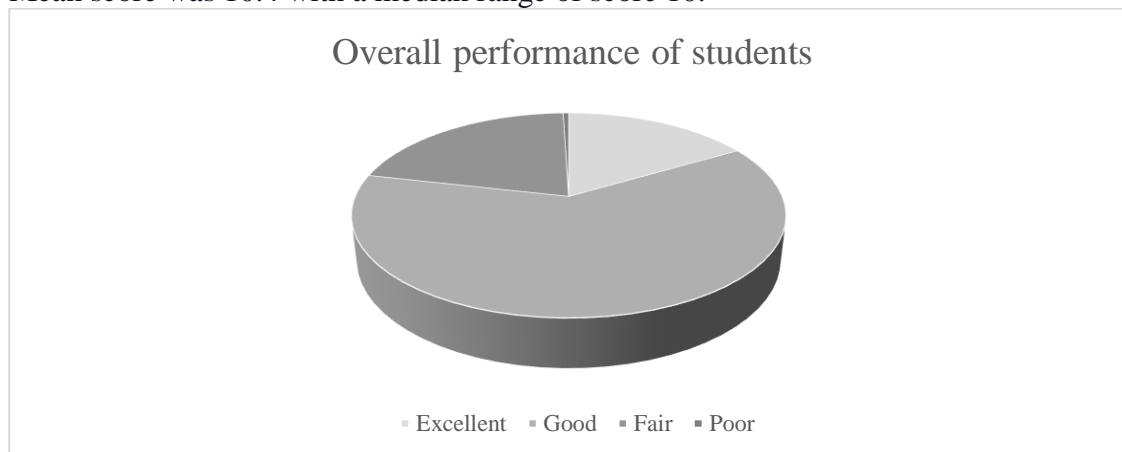


Figure 2. Overall performance of students

The scores were classified as excellent ( $\geq 95\%$ ), good (80-95%), fair (60-80%) and poor ( $< 60\%$ ). The figure 2 shows the overall knowledge of students as excellent (16.6%), good (62.2%) and fair (21%).

Year of study	Excellent	Good	Fair	Poor
1 <sup>st</sup> year	12(16.9%)	46(64.8%)	13(18.3%)	0
2 <sup>nd</sup> year	2(7.4%)	16(59.3%)	9(33.3%)	0
3 <sup>rd</sup> year	11(15.5%)	45(63.4%)	15(21.1%)	0
4 <sup>th</sup> year	9(25%)	20(55.6%)	6(16.7%)	1(2.8%)

Table 2. Year wise classification of results

Table 2 gives the year wise classification of results. Even first-year students had good awareness (64.8%) regarding the guidelines.

## DISCUSSION

Even though the prospect of including medical students may seem reckless, precedents for their involvement offer some insights on their potential usefulness. During the 1918 Spanish Flu, medical students at the University of Pennsylvania were deployed in direct patient care since most of the trained doctors had been diverted to war <sup>[4]</sup>. Similarly, during the polio outbreak of 1952 in Denmark, students were tasked with manually ventilating patient. <sup>[5]</sup> More recently, medical students were recruited in patient care during a massive flood in Kelantan, a rural Malaysian state, in 2014. <sup>[6]</sup> These examples prove that by training the medical students who are ready to volunteer and addressing the legal and ethical issues sufficiently will provide an efficient young workforce to win this battle against the coronavirus.

Most of the questions in our study were answered right by the students. However, many of them went wrong on one question - whether COVID-19 is airborne or not. Only 72(35%) of them could answer it correctly. But 98.1% of them knew that the COVID -19 is spread via respiratory droplets of infected individuals. Majority knew the correct definition of Contact and the difference between a high risk and low risk contact. Almost all (97.1%) knew about the main clinical symptoms of COVID-19 and the difference in symptoms between COVID-19 and common cold. More than 90% of the students knew that not all persons with COVID-19 will develop to severe cases and only those who are elderly and have chronic illnesses are more likely to be severe cases. Majority of the students were able to bust the myths about COVID-19 like eating or touching wild animals would not result in the infection and that the persons with COVID-19 can infect the virus to others even if they do not have a fever. Almost all the students agreed on the point that isolation and treatment of people who are infected with the COVID-19 virus are effective ways to reduce the spread of the virus and ordinary residents can effectively prevent the risk of infection by wearing face masks. 116 of them knew the quarantine guidelines for a high-risk primary contact is for 14 days and about 78% knew that a health worker with a contact with a confirmed case with Breach in PPE should be quarantined at home or institution for 14 days.

Hence, it is evident from our study that majority of medical students have a good level of awareness regarding the COVID-19 and its guidelines. This is a very reassuring finding that shows they are keen on following the updates and guidelines. As the cases are still escalating, the healthcare system of the country too is on the verge of its breaking point. They can be a part of the multifaceted pandemic response by doing 'small' but important tasks like contact tracing, making discharge summaries, monitoring of people who are in quarantine, counselling relatives etc. These are simple protocol-based tasks for which students can be trained easily. They can also be involved in social media campaigns and dispelling myths about COVID-19 since most of the students are active in various social media platforms. Another factor which favors the involvement of medical students is their age as the mortality and morbidity among young people, with adequate precautions is almost zero. Since the students are not employees, they should not be forced to work in this pandemic but studies conducted at the University of Alberta and the University of Michigan during the 2009 H1N1 pandemic show that the majority of students (surveyed) preferred to volunteer. <sup>[7]</sup> The COVID-19 pandemic may also be taken as a test case for similar other pandemics that the present-day world is prone to. Our study also emphasizes the need of the hour to equip the medicos in line with other health care workers to suit the situation to handle the epidemics.

## CONCLUSION

With appropriate training, medical students can be considered as part of the team involved in the fight against COVID-19. Including them would also reinforce the students the important values of altruism and service in times of need. For spreading awareness and dispelling myths related to COVID-19 pandemic, medical students can be involved and this would also decrease the burden on our health care system. Nevertheless, recruitment should be strictly voluntary, with proper informed consent. It is also important to develop and introduce adequate training programs in the MBBS curriculum so that when faced with a similar challenge in the future we will have young soldiers to win the battle.

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