



## IMPACT OF COVID-19 LOCKDOWN ON UNDERGRADUATE MEDICAL EDUCATION

## Medicine

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## ABSTRACT

**Background:** COVID-19 pandemic has brought about significant changes in the way undergraduate medical education is conducted. This study was done to know the impact of Covid-19 on medical undergraduate, and the problems faced by them during the lockdown period. **Methods:** Study was carried out in Integral Institute of Medical Sciences and Research, Lucknow. 446 medical undergraduates were enrolled during the lockdown period and 412 provided data for the current studies. The simple percentage distribution was used to assess the learning status of the study participants. **Results:** Over half (62.2%) of the students got information about Covid-19 from social media. The students who were not living at their own home (staying in relative's home, rented house, mess, and as a paying guest) were facing some difficulties related to financial (63.2%), food (18.9%), and health (17.9%). Over one-third (39.6%) of the medical students think that Covid-19 pandemic has affected acquisition of theoretical knowledge while majority of the students (74.8%) think that Covid-19 pandemic has affected acquisition of practical/ clinical skills. **Conclusion:** Our study suggested that Covid-19 pandemic lockdown had negative effect on Undergraduate medical students. Strategies are urgently needed to build a resilient education system in the state that will ensure to develop the skill for employability and the productivity of the young minds.

## KEYWORDS

Covid-19, medical, pandemic

## INTRODUCTION

The coronavirus disease (COVID-19) pandemic has had a worldwide impact on the population, global economy and health care systems. Whilst the spread of the virus has resulted in far-reaching consequences, the closure of schools and universities has led to innovative methods of delivering education, ensuring that students continue to receive teaching, albeit different methods of modality [1].

The first COVID-19 positive case was reported in India (Kerala) on 30 January 2020 [1,2]. Since then, India experienced sparkled growth in COVID-19 cases. The government of India along with various state governments have initiated several strategies to control the spread of the disease. Since 25 March, India has observed various phases of nationwide lockdown.

As COVID-19 pandemic continues to soar emotions in general population, medical students also remain in a state of uncertainty about the future, causing profound psychological effects [2]. Simultaneously, as uncertainty continues among medical students, suspension in clinical exposure may cause harmful effect in their exam and future performance as a doctor [3]. Staying healthier is becoming a new aggravating factor of stress in medical students

## Objectives

1. To know Knowledge and attitude of medical undergraduates towards COVID-19
2. To know attitude of Undergraduates toward various learning methods during lockdown.
3. To know the impact of COVID-19 lockdown on medical undergraduates

## The Procedure and Methods Used

1. **Study Area:** Study was carried out in Integral Institute of Medical Sciences and Research, Lucknow
2. **Study Population and Size:** All MBBS students enrolled in IIMS&R at the time of study.
3. **Study Design:** Cross-sectional observational study.
4. **Data Collection:** a pre-tested structured questionnaire in local language was used by the investigator to collect information

## ❖ Inclusion Criteria

- All Medical Undergraduates enrolled in IIMS&R during Lockdown

## ❖ Exclusion Criteria

- All Medical Undergraduates enrolled in IIMS&R after lifting of Lockdown
- Students who did not provide consent

## ❖ Data Analysis:

Data entry was done in MS Excel and data was analyzed in Statistical Package of Social Science using proportions, Chi-square test, correlation and regression.

- Ethical approval was obtained from the Institutional Ethics Committee, IIMS&R, Integral University, Lucknow.

## RESULTS

Out of 446 students 412 provided information. The mean age of study participants was  $23.5 \pm 3.1$  years. Majority of the study participants were male (59.2%). Over one-third (47.8%) of the medical students belong to general social group. Most of the medical students belong to Muslim religion (45.8%), resided in rural area (52.4%), and had a family income of more than 50000 per month (69.1%).

**Table 1: Socio-demographic Profile of the Students.**

| SNo. | Characteristic        | Total    | Male     | Female   | P value |
|------|-----------------------|----------|----------|----------|---------|
| 1.   | Mean Age (years)      | 23.5±3.1 | 23.9±3.7 | 22.6±3.2 | 0.53    |
| 2.   | Social Groups         |          |          |          | 0.66    |
|      | General               | 197      | 118      | 79       |         |
|      | OBC                   | 175      | 105      | 70       |         |
|      | Others                | 40       | 21       | 19       |         |
| 3.   | Religion              |          |          |          | 0.87    |
|      | Hindu                 | 189      | 113      | 76       |         |
|      | Muslim                | 192      | 114      | 78       |         |
|      | others                | 31       | 17       | 14       |         |
| 4.   | Residential area      |          |          |          | 0.69    |
|      | Urban                 | 196      | 118      | 78       |         |
|      | Rural                 | 216      | 126      | 90       |         |
| 5.   | Monthly Family Income |          |          |          | 0.02    |
|      | <20000                | 38       | 29       | 9        |         |
|      | 20000-50000           | 89       | 54       | 35       |         |
|      | 50000-1 lakh          | 198      | 119      | 79       |         |
|      | >1 lakh               | 87       | 42       | 45       |         |
| 6    | MBBS Prof year        |          |          |          | 0.99    |
|      | 1st Prof              | 150      | 89       | 61       |         |
|      | 2nd Prof              | 96       | 57       | 39       |         |
|      | 3rd Prof              | 88       | 52       | 36       |         |
|      | 4th Prof              | 78       | 46       | 32       |         |

Table 2 shows knowledge of Medical students regarding Covid-19. Out of 412 students, (39.4%) heard about the disease in January 2020 and their main source of information was social media. The majority of the students (56%) reported that they were residing in Hostels during the lockdown period. The students who were not living at their own home were facing some difficulties related to financial (63.2%), food (18.9%), and health (17.9%).

**Table 2 Shows Knowledge and Learning of Undergraduate Students Regarding Covid-19**

| S.No | Knowledge and mode of learning regarding COVID-19         |                            | Frequency | Percent |
|------|-----------------------------------------------------------|----------------------------|-----------|---------|
| 1.   | Time when heard about covid-19                            | Jan 2020                   | 102       | 24.7    |
|      |                                                           | Feb 2020                   | 148       | 35.9    |
|      |                                                           | March 2020                 | 162       | 39.4    |
| 2.   | Source of information about COVID-19                      | Newspaper                  | 52        | 12.7    |
|      |                                                           | Personal interaction       | 24        | 5.8     |
|      |                                                           | Social media               | 258       | 62.6    |
|      |                                                           | Television                 | 78        | 18.9    |
| 3.   | Place residing during the lockdown                        | At own home                | 159       | 38.6    |
|      |                                                           | Hostels                    | 231       | 56.0    |
|      |                                                           | Other places               | 22        | 5.4     |
| 4.   | Difficulties facing during lockdown (who are not at home) | Financial                  | 160       | 63.2    |
|      |                                                           | Food                       | 48        | 18.9    |
|      |                                                           | Health                     | 45        | 17.9    |
| 5.   | Mode of learning                                          | Online study               | 135       | 32.7    |
|      |                                                           | Self-Study                 | 103       | 25.0    |
|      |                                                           | Both self-study and online | 174       | 42.3    |
| 6.   | Syllabus covered                                          | <30%                       | 86        | 20.9    |
|      |                                                           | 30-50%                     | 176       | 42.7    |
|      |                                                           | >50%                       | 150       | 36.4    |
| 7.   | Time spend for studies during lockdown                    | Equal to normal            | 78        | 18.9    |
|      |                                                           | More than normal           | 147       | 35.7    |
|      |                                                           | Less than normal           | 187       | 45.4    |
| 8.   | Platform for study material sharing                       | Whatsapp group             | 238       | 57.8    |
|      |                                                           | Google classroom           | 126       | 30.6    |
|      |                                                           | Zoom app                   | 23        | 5.6     |
|      |                                                           | Any other method           | 25        | 6.0     |

Over half of the students (63.6%) reported that less than 50% of their syllabus was covered.

More than one-third of the students (45.4%) reported that they were spending less time than the normal situation for study. Majority (67.5%) of the students used google classroom as the preferred choice for online classroom while most of the students (57.8%) used Whatsapp group for material sharing.

**Table 3: Impact of Covid-19 on Medical Students**

| Impact of Covid-19                                                                       |            | Frequency | Percent |
|------------------------------------------------------------------------------------------|------------|-----------|---------|
| Do you think that the economic condition of your family will be affected by Covid-19     | Yes        | 304       | 73.8    |
|                                                                                          | NO         | 88        | 21.4    |
|                                                                                          | Don't know | 20        | 4.8     |
| Do you think that the low family income will affect your education                       | Yes        | 225       | 54.6    |
|                                                                                          | NO         | 142       | 34.5    |
|                                                                                          | Don't know | 45        | 10.9    |
| Do you think the COVID-19 pandemic may cause of educational discontinuation              | Yes        | 158       | 38.3    |
|                                                                                          | No         | 189       | 45.9    |
|                                                                                          | Don't know | 65        | 15.8    |
| Do you think the COVID-19 pandemic has affected acquisition of theoretical knowledge     | Yes        | 163       | 39.6    |
|                                                                                          | No         | 201       | 48.8    |
|                                                                                          | Don't know | 48        | 11.6    |
| Do you think the COVID-19 pandemic has affected acquisition of practical/clinical skills | Yes        | 308       | 74.8    |
|                                                                                          | No         | 65        | 15.8    |
|                                                                                          | Don't know | 39        | 9.4     |

Table 3 shows that 73.8% students reported that their economic condition will be affected by the COVID-19 pandemic and 54.6% students reported that low family income amidst COVID-19 would have a negative impact on their education. Furthermore, almost one-third 38.3% students thought that the current pandemic may cause their educational discontinuation. Over one-third (39.6%) of the medical students think that Covid-19 pandemic has affected acquisition of theoretical knowledge while majority of the students (74.8%) think that Covid-19 pandemic has affected acquisition of practical/ clinical skills.

## DISCUSSION

The present study investigated the impact of Covid-19 lockdown on medical undergraduates at Integral institute of Medical sciences which is also a government approved centre for treating Covid-19 patients. As there are very few studies done on the impact of Covid-19 on

medical education so very less data is available in relation to our studies.

In our study we found that most of the undergraduate students heard about Covid-19 during Jan and Feb 2020 (60.6%) through social media (62.6%) as there were increasing concern in the media and health sector during that time. This is similar to the studies by Nanigopal et al and Moffat KJ et al [10,12].

Most of the students faced financial (63.2%) difficulties during the lockdown followed by difficulty in availability of food.

As the teaching in medical institute was restricted due to lockdown and only online mode of teaching was going on so most of the students reported that less than 50% of their syllabus was covered. Majority (67.5%) of the students used google classroom as the preferred choice for online classroom while most of the students (57.8%) used whatsapp group for material sharing. This is similar to the studies of Raju et al, Manzoor et al and Nanigopal et al [6,9,10].

Over one-third (39.6%) of the medical students think that Covid-19 pandemic has affected acquisition of theoretical knowledge while majority of the students (74.8%) think that Covid-19 pandemic has affected acquisition of practical/ clinical skills. Similar results were obtained by A khani et al and Ilango S et al. This may be due to closure of OPD and IPDs in the hospital [11]. Teaching in medical education is a combined effect of theory and practical classes and due to lockdown there was halt in routine medical services. There was no ward posting and practical classes. [10, 14]

## CONCLUSION

The lockdown amidst COVID-19 has made significant disruptions in academic activities. Although a substantial proportion of students in our study were using digital platforms for learning, many of them faced huge challenges in online study. Also in medical studies role of in-patient and out-patient studies is very important which was severely hampered during lockdown. Most of the students think that their clinical and practical skills will be affected due to Covid-19.

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