International Surgery Journal
Ramavath K et al. Int Surg J. 2021 Sep;8(9):2750-2755
http://www.ijsurgery.com
pISSN 2349-3305 | eISSN 2349-2902

DOI: https://dx.doi.org/10.18203/2349-2902.isj20213608

Short Communication

The impact of COVID-19 related lockdown and restrictions on general surgery resident training program in India-outcome of a survey

Krishna Ramavath[1]*, Satish Subbiah Nagaraj[2], Pranay Palle[2], Charan Singh[2]

[1]Department of General Surgery AIIMS, Bibi Nagar, Nalgonda, Telangana, India
[2]Department of General Surgery, Post Graduate Institute of Medical Education and Research, Chandigarh, India

Received: 02 June 2021
Revised: 05 July 2021
Accepted: 30 July 2021

***Correspondence:**
Dr. Krishna Ramavath,
E-mail: krishnaramavath149@gmail.com

ABSTRACT

The global spread of the disease COVID-19 pandemic occurred due to novel virus corona 2019-nCoV, first time detected in China Wuhan city then spread throughout the world. In our country during 2020 march to up to starting of June, the government of India has put lockdown all over the country. Some restrictions were continued throughout the year and again has put lockdown in 2021 also. Again, in 2021 February last week second wave of COVID-19 pandemic has started and many states in the country has implemented lockdown as phase wise. COVID-19 lockdown has so much effect on surgery resident training program in India. The aim of this study is to assess the effect of the lockdown and COVID-19 pandemic restriction on general surgery residents training programs across India. It is an online based questionnaire survey using apps like Facebook, WhatsApp, Telegram and telephonic services. Data from students was collected through social media who were responded to our questionnaire. Our survey showed that majority surgery trainees across the country felt that the COVID-19 lockdown adversely affected their learning, especially surgical training.

Keywords: COVID-9 pandemic, Fellowship, Medical education, General surgery residency training, Resident, SARS

INTRODUCTION

In late 2019, multiple cases of pneumonia of unknown etiology were observed in the city of Wuhan in Hubei province in China. Later it was found that these cases were caused by a novel virus by genomic sequencing which was called severe acute respiratory syndrome Corona virus 2 (SARS-CoV-2); also known as 2019 novel Corona virus (2019-nCoV).[1] After that world health organization declaring it as a global pandemic due to COVID-19 spread throughout world.[2] Later in India in view of over spread of corona infection the government of India has put lockdown of varying degrees. First, the government put in place a total lockdown in March 2020. The lockdown came into the force at midnight local time on the 24th March 2020 and was enforced for the twenty-one days. Subsequently, on April 14th, 2020, this lockdown was extended up to 17th May 2020, taking the total number of days under lockdown to beyond 50 days.[3] After that government has put some relaxations to COVID-19 restrictions and COVID-19 precautions guidelines up to 2021 February. Again, in February second way of COVID-19 pandemic was started. Due to rapid spread of corona infections in second way again some state wise lockdown was applied as per their norms and rules and regulations. During this lockdown time and pandemic restriction time as per government directives, all nonemergency out-patient departments (OPDs) across hospitals and clinics in India were to be shut, all elective surgeries to be deferred and only emergency healthcare services to function. Only emergency lifesaving procedures were done. COVID-19 pandemic care was

given in all government and private hospitals. The department of general surgery, being a major branch of health care departments, which largely deals with elective and emergency surgeries was significantly affected. The resident training program and surgical skill improving time was so affected. Many residents were suffered with their academics training program due to COVID-19 pandemic restrictions.

A collateral casualty of the COVID-19 pandemic is medical training, especially in non-emergency branches, not directly involved in COVID-19 patient care. In the United States, the association of American medical colleges in March 2020, released guidelines strongly suggesting that medical students should not be involved in direct patient contact activities.[4] Given that the situation is largely fluid and with no effective therapeutic agent or vaccine available yet, it is unclear when the situation would normalize. Across specialties, sweeping changes have been made such as ramping down surgical volume and redeployment of skeleton in-house call schedules to reduce the chances of cross-infection among hospital staff. The severe acute respiratory syndrome (SARS) pandemic in 2003 had resulted in some similar changes in training programs in many countries. Following the SARS outbreak in Hong Kong, both medical schools in Hong Kong had to abruptly transition undergraduate medical education from classroom lectures to a recorded lecture format, and students were taken out of clinical rotations temporarily.[5] Later on, as the disease spread to Canada, the university of Toronto followed suit and suspended student education in teaching hospitals. Given the global footprint of COVID-19, it is likely that this pandemic would have a far more significant and long-lasting effect on medical education.[6] With this background, this survey was designed to assess the effect of the COVID-19 related lockdown restrictions on the general surgery resident training programs across the Indians.

METHODS

An online survey (Google forms) was circulated among Indian trainees (residents) in general surgery department of institutions in India during the lockdown period and pandemic restriction time between May 7 to May 12 in the year of 2021. An invitation to participate in the study was circulated through multiple groups on social media, namely Facebook, WhatsApp and Telegram. The survey, which consisted of 25 questions (Appendix 1), was open for a period of 5 days. Respondents had the option of adding their names and email addresses. However, this was not mandatory. Most of residents were responded from central institutions in India. Association between categorical variables was assessed using Fisher exact test or Chi-squared test. We considered a $p<0.05$ as statistically significant. All statistical analysis was performed with GraphPad Prism 6 (GraphPad Inc, La Jolla, CA).

RESULTS

A total of 300 valid responses were received between May 7 to May 12, 2021. Most of the residents who responded were from Central govt. institutions in India. All valid responses were tabulated and analyzed.

Demographic data

The average age of the respondents was 28.5 years (range: 23-45 years; SD±3.14). It was noted that 72/300 (24%) of the respondents were female and 228/300 (76%) were male.

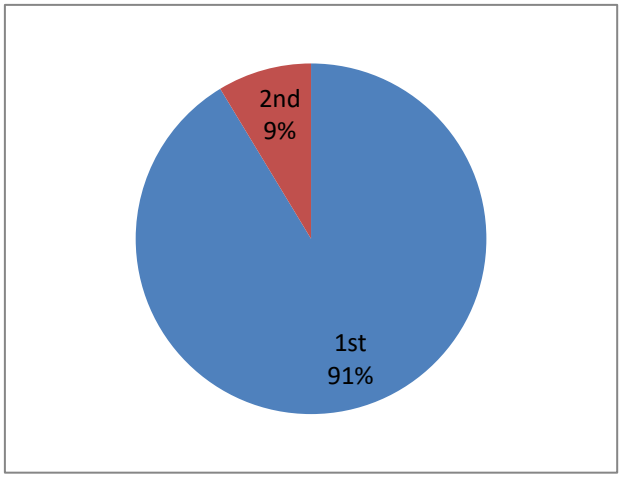

Figure 1: Surgical training program: 274/300 (91%) residents felt that COVID-19 had negative impact on their training program.

The residents were asked to specify which training program they were currently enrolled in (Figure 1) 166/300 of the respondents were pursuing MD/MS programs. 92/300 of the respondents were in diplomat of the national Board (DNB) residency programs; 42/300 respondents were in senior residency. Most of the trainees were enrolled from government institutions in India. The respondents were asked to specify the funding of their training centers: 176/300 indicated they were in government owned hospitals. It was noted that 196/300 (65.3%) of the trainees had been posted on 'COVID screening/patient care' duty. Analysis of this data showed that a significantly higher proportion of trainee general surgeons were in government owned hospitals as compared to those in private practice ($p=0.04$). When asked if they felt that protection kits provided by their hospitals were adequate, 74/196 (37.6%) felt that it was not adequate. When the trainees were asked if the lockdown had a negative impact on their surgical training; a large majority 274/300 (91%) of the residents responded that lockdown restrictions have negative impact on their surgical training program. The residents were asked to quantify this impact on their surgical training most of the residents felt there was 70% or more reduction in their surgical training during the lockdown. The trainees were also asked if the lockdown had a

negative impact on their theoretical and classroom learning: 246/300 (82%) agreed, 36/300 (12%) disagreed and 18/300 (6%) of the respondents were not sure. In all, 212/300 of the trainees indicated that they received their salary/stipend during the lockdown and 88/300 had not. The trainees were asked about the effect of COVID-19 lockdown on their wellbeing and state of mind in response to that 186/300 residents responded that they had anxiety and depression due to their loss of training program and fear of family members health condition.

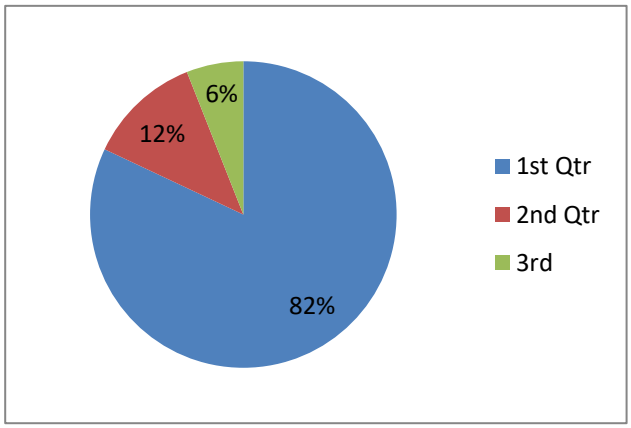

Figure 2: Theoretical class: 246/300 (82%) residents agreed that they loss the theoretical classes. 36/300 (12%) were disagreed. 18/300 (6%) were not sure.

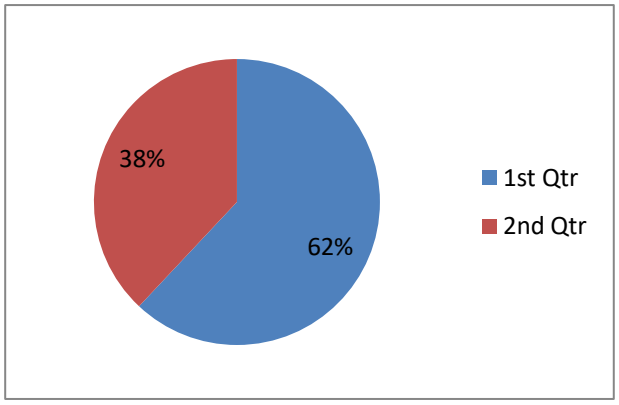

Figure 3: Anxiety and depression: 186/300 residents responded that they had anxiety and depression due to their loss of training program and fear of family members health condition.

DISCUSSION

This survey highlights that the COVID-19 lockdown and pandemic restrictions has brought with it, uncertainty, anxiety and higher stress levels among surgery trainees across India due to the disruption of training program schedules mainly during the time of the second wave spread. In our survey, we noted that 196/300 (91%) of the trainees had been posted on 'COVID screening and patient care duty. The accreditation council for graduate medical education (ACGME) based in the United States noted in an editorial that residents/fellows and attending surgeons will be sidelined for significant periods of time due to known exposure to the virus or becoming infected themselves. Some residents, fellows and attending will predictably succumb to the virus.[7] Therefore, the primary focus of program directors during the pandemic should be education and protection: educating the frontline doctors about COVID-related patient care and how to protect themselves from contracting the disease. Alarmingly, 74/196 (65.3%) of those who were on COVID-19 duties felt that the protective equipment they were using was inadequate. Expectedly, a significantly higher proportion of residents in government owned hospitals and medical colleges had COVID-19 rotations as compared to those trainees in privately owned hospitals/institutes. Studies have shown that health care workers on the frontline feared contagion and infection of their family, friends, and colleagues; felt uncertainty and stigmatization; and reported experiencing high levels of stress, anxiety, and depression symptoms, which could have long-term psychological implications. The ever-increasing number of confirmed and suspected cases, overwhelming workload and depletion of personal protection equipment, may all contribute to the mental burden of these residents and health care workers.

Moghadasi noted that Iranian medical trainees exhibited higher level of anxiety during the COVID-19 outbreak in Iran. It was noted that high level of anxiety can reduce an individual's attention, which is very hazardous, especially for medical personnel.[8,9]

In our survey, while 300 of the respondents indicated that their personal routines were disrupted, 185/300 indicated higher stress levels during the lockdown.

Effect on residency/fellowship training In the United States, since COVID cases were reported in each of the 50 states across the country, many training hospitals have responded uniformly: they have reduced their nonessential surgery volume, and are performing only surgeries that are emergent, urgent, or time sensitive.[10]

Teaching hospitals must balance priorities between patient care and resident education. The impact of those deficient experiences will be greatest on residents/fellows in their ultimate or penultimate years of training.

So, in view of this pandemic situation all institutions should think about other way of training programs, which can be very helpful to the residents. Like online virtual classrooms for theory classes and clinical case discussions.

Program directors need to be innovative and include both live online classrooms as well as pre-recorded classes that can be accessed anytime into the training curriculum. This would require considerable investment of time and resources to develop and create a library of classrooms. Conferences Medical conferences are a traditional part of

medical training and continuing education. While presenting posters and papers, residents and fellows can engage with leading experts from around the world and use the opportunity to discuss their work with them. Furthermore, conferences present a rare opportunity to get expert opinions on how to improve and advance current research. However, in view of 'social distancing requirements, many conferences across the globe have been cancelled or postponed. Residency directors could take advantage of these virtual conferences and allow maximum resident/fellow participation not just as attendees, but as presenters as well.

Simulation based surgical training

While there is no substitute for learning and practicing clinical examination techniques on patients and surgical procedures in real life; recent advances in simulation technology have opened up new avenues in training. The COVID-19 lockdown and the period that follows could bring in drastic changes. It is likely that hospitals will see fewer patients the next upcoming years and residents/fellows may have fewer surgical rotations as a result of decreased clinical surgical demands and as a means of mitigating their exposure to the virus.[11] Reduced time in the clinics and or will adversely affect their clinical and surgical skill acquisition. Medical simulators may be useful in this scenario

These simulators permit trainees to practice surgical procedures repeatedly in order to improve their surgical skills. Some simulators also allow objective measures of performance and trainees can experience a wide range of clinical scenarios without any actual risk to the patients.

Limitations like any other survey, our report too has the inherent drawbacks of self-reported surveys. The survey questions are not standardized and given the rapidly changing scenario. It was not possible to conduct a validated survey. The authors felt it necessary to keep the survey open only for a short period of time during the second wave of COVID-19 pandemic. Less no of residents were responded.

CONCLUSION

The COVID-19 pandemic has changed the way general surgery residents will be practiced in the future. It is prudent that the leaders recognize the impact this will have on trainees currently in training. While regulatory organizations and societies must issue clear guidelines to help resume patient care without compromising on safety, medical education cannot be neglected. Short-term measures that have been enumerated in this communication should be taken into consideration and similar guidelines my along with instituting sound support systems locally to assist those trainees in distress. As soon as pandemic situation settles downs the institutions/colleges should concentrate on resident training programs.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

REFERENCES

1. Xia J, Tong J, Liu M, Shen Y, Guo D. Evaluation of coronavirus in tears and conjunctival secretions of patients with SARS-CoV-2 infection. J Med Virol. 2020;92(6):589-94.
2. Wang C, Horby PW, Hayden FG, Gao GF. A novel coronavirus outbreak of global health concern. Lancet. 2020;395:470.
3. The Lancet. India under COVID-19 lockdown Lancet Lond Engl 2020395(10233)1315 [HYPERLINK "https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7180023/" PMC free article] [HYPERLINK "https://www.ncbi.nlm.nih.gov/pubmed/32334687" PubMed] [HYPERLINK "https://scholar.google.com/scholar_lookup?journal=Lancet+Lond+Engl&title=The+Lancet.+India+under+COVID-19+lockdown&volume=395&publication_year=2020&pages=1315&"Google Scholar].
4. Alison Whelan, MD. Guidance on Medical Students' Participation in Direct In-person Patient Contact Activities. Association of American Medical colleges; Aug: 14, 2020.
5. Patil NG, Chan Y, Yan H. SARS and its effect on medical education in Hong Kong. Med Educ. 2003;37:1127-8.
6. Clark J. Fear of SARS thwarts medical education in Toronto. BMJ. 2003;326:784.
7. Potts JR 3rd, Fallat ME, Gaskins J, Azarow KS, Caniano DA. Contemporary General Surgery Resident Learning Experience in Pediatric Surgery. J Am Coll Surg. 2021 Jul 12:S1072-7515(21)00511-1.
8. Moghadasi NA. Evaluation of the Level of anxiety among Iranian multiple sclerosis fellowships during the outbreak of COVID-19. Arch Iran Med. 2020;23:283.
9. Najmi S, Kuckertz JM, Amir N. Attentional impairment in anxiety: Inefficiency in expanding the scope of attention. Depress Anxiety. 2012;29:243-9.
10. Bambakidis NC, Tomei KL. Impact of COVID-19 on neurosurgery resident training and education. J Neurosurg. 2020;1-2.
11. Dean WH, Gichuhi S, Buchan JC, et al. Intense Simulation-Based Surgical Education for Manual Small-Incision Cataract Surgery: The Ophthalmic Learning and Improvement Initiative in Cataract Surgery Randomized Clinical Trial in Kenya, Tanzania, Uganda, and Zimbabwe. JAMA Ophthalmol. 2021;139(1):9-15.

Cite this article as: Ramavath K, Nagaraj SS, Palle P, Singh C. The impact of COVID-19 related lockdown and restrictions on general surgery resident training program in India-outcome of a survey. Int Surg J 2021;8:2750-5.

APPENDIX 1

Surgical trainee COVID-19 survey

The list of questions asked in the online survey

1) What is your age?

2) Gender. M/F

3) Which training program are you currently enrolled in-
   a) MS, b) DNB, c) Mch, d) Fellowship/Senior Residency, e) Others

4) In which year of training are you currently in?
   a) 1st, b) 2nd, c) 3rd

5) Which institute you are in now?
   a) Central institution, b) Govt medical college, c) Pvt medical college, d) Multidisciplinary teaching private institute

6) What is funding source of your present institute?
   a) Government, b) Private, c) Partly government owned, d) Other

7) Did you receive your salary in time during this lockdown?
   a) Yes, b) No

8) Have you been posted on COVID-19 duty?
   a) Yes, b) No

9) Do you think the protective gear provided by your hospital is adequate?
   a) Yes, b) No, c) Not Sure

10) Do you think this lockdown has affected your surgical training?
    a) Yes, b) No, c) Not sure

11) How much of a negative effect do you think the lock down or COVID-19 pandemic restrictions has had on your surgical training?
    a) 75%, b) 50%, c) 25%

12) Do you think covid-19 lockdown affected so much to your surgical training programme?
    a) 100%, b) 75%, c) 50%, d) 25%

13) Do you think this lockdown/COVID-19 pandemic restrictions have affected your theoretical learning/classroom training?
    a) Yes, b) No, c) Not sure

14) How much of a negative effect do you think the lock down or COVID-19 pandemic restrictions had on your theoretical learning/classroom training?
    a) 75%, b) 50%, c) 25%

15) As a training doctor, what is your general state-of-mind during the lockdown?
    a) Happy, b) Unhappy, c) Depressed

16) Did the COVID-19 lockdown effect your daily routine?
    a) Yes, b) No

17) How do you think the COVID-19 lockdown has affected your stress levels?
    a) Increased, b) Decreased, c) No effect

18) Did your faculty/family members express concern for your safety during this COVID-19 lockdown?
    a) Yes, b) No, c) Not sure
19) How do you spend time during the lockdown?
    a) COVID duty, b) Hospital duty, c) Indoor games, d) Web series/movies social media, e) Studies, f) Other

20) Did you use the internet for surgical procedure learning effectively during the lockdown period?
    a) Yes, b) No, c) Not sure

21) Were online classes and webinars during this lockdown period useful?
    a) Yes, b) No, c) Not Sure

22) How is the food quality in the hostel during your stay there during the COVID-19 duty during lockdown?
    a) Same as before, b) Improved, c) Deteriorated, d) Not Applicable

23) do you think second wave COVID-19 has effect same as first one on your surgical training programe.
    a) Yes, b) No

24) if yes how much percentage you affected by second wave?
    a) 75%, b) 50%, c) 25%

25) Do you think COVID-19 is affecting your future career planning?
    a) Yes, b) No