



A STUDY ON ACADEMIC IMPACT OF COVID-19 ON ANAESTHESIOLOGY RESIDENTS OF TEACHING HOSPITALS IN MUMBAI

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KEYWORDS :

INTRODUCTION

Anaesthesia residents are frontline healthcare workers serving to the Covid-19 patients in ICU and wards. They are doing regular rotational duties for their patients. The initial months of the Covid-19 pandemic were stressful and caused significant stress and fear among the residents due to the high chances of getting infected by the patients. Anaesthesia residents are more familiar with the environment and practices in the operation theatre and postoperative intensive care unit. This June-July 2020 admission batch residents were novice trainees who were exposed to the Covid-19 pandemic in the beginning. Their initial days of training involved in learning Covid-19 patient management rather than doing routine Anaesthesia management, especially during the first few months after joining the Anaesthesia branch. All anaesthesiology residents had practical difficulties due to the nature of the disease, high mortality rate and uncertainty.

They had to serve a different set of patients and their medical problems. They are experts in giving management in critical care patients, and they are exposed to aerosols generating procedures (e.g., intubation, extubation), So they have a high risk of contracting the infection. At times, all anaesthesiology residents were overworked and had to face other issues due to quarantine and lockdown. The covid pandemic caused emotional and physical exhaustion. Apart from the risk to self, the risk of transmitting the infection to family members is also a concern. The working pattern and rotation had resulted in a change in routine operation theatre work and academics.

Uncertain situations during the pandemic have caused the change in teaching schedules in teaching hospitals. As routine surgical work was affected during the Covid-19 pandemic, there was a significant decrease in the number of routine surgeries done. This affected the student learning opportunities. They got very less exposure to certain work like pre-operative assessment, postoperative ICU management and postoperative pain management. Anaesthesia residents could do less number of procedures like intubation, spinal, epidural and peripheral nerve blocks. As cases decreased, anaesthesia residents got limited hands-on procedural skills training in the operation theatre.

The present study will be assessing the academic impact of the Covid-19 pandemic on June-July 2020 admissions batch residents. This is a questionnaire-based study involving three parts;

1. Assessment of learning of Anaesthesia management and
2. Effect on teaching program.

AIMS AND OBJECTIVES

AIM

To assess the effect on academic activities due to covid-19 pandemic

OBJECTIVES

To identify contemporary issues of Anaesthesia trainees

MATERIAL

Study Design: Cross-sectional observational study

Study Setting:

Study considered all 128 Anaesthesia resident (2020 admissions batch) from teaching hospitals in metropolitan city who are doing Covid duties

Sample Size:

Entire available population of 128 anaesthesia residents were being considered for this study. Hence sample size calculation is not being done

Inclusion Criteria

All Anaesthesia 2020 admissions batch residents from teaching hospitals in metropolitan city who are doing Covid duties

Exclusion Criteria

Participant who are not willing to take part

METHODOLOGY

The present study was a questionnaire-based study. The objective of this study is to identify stress and contemporary issues of Anaesthesia trainees. All 2020 batch anaesthesia residents in a teaching hospital in metropolitan city doing covid duties were contacted through WhatsApp for participation in the study.

The assessment of learning of Anaesthesia management was assessed by a survey. A self-assessment form containing interpretative questions designed using a five-point Likert scale format (strongly agree, somewhat agree, neutral or no opinion, somewhat disagree, and strongly disagree) will be shared with participants.

Pre-validated survey that will be administered to the study participants will have following questions:

1. Can identify difficult airway in pre-op evaluation
2. Can identify difficult spinal
3. Can perform basic preparation of operation theatre like checking Anaesthesia work station, defibrillator, preparing airway trolley and keeping emergency drugs.
4. Able to perform intubation in not more than 3 attempts which is otherwise easily performed by senior resident
5. Can perform the spinal, epidural without multiple procedure attempts (pricks less than 3) in patient with normal spine anatomy
6. Can understand the basic intra-operative management like assessing the blood loss, maintaining the normotension and normocapnea
7. Able to understand and rectify intra-op mishaps like equipment failure, circuit disconnection, intra-venous line disconnection etc.
8. Able to manage a case in post-op period like management of mechanical ventilation, correction of acid-base electrolyte imbalance, hemodynamic monitors etc.

The academic impact of Covid-19 pandemic on Anaesthesia residents were assessed by survey. A self-assessment form containing 5 interpretative questions designed using a five-point Likert scale format (strongly agree, somewhat agree, neutral or no opinion, somewhat disagree, and strongly disagree) was shared with participants.

Pre-validated survey that was administered to the study participants had following questions:

1. Practical skill training like securing IV/regional Anaesthesia / is affected
2. Routine and emergency rotation postings in different OTs affected
3. Routine academic activities are affected
4. Thesis related work is affected
5. Following teaching and learning methods may help in acquiring practical knowledge and skills:
 - a) Case-based teaching
 - b) Peer group discussion
 - c) Simulation-based training

RESULTS

DEMOGRAPHIC ANALYSIS

In total 106 respondents completed the survey making the response rate around 83%. All the respondents were involved in direct care of Covid patients.

Out of 106 respondents, 77 were female and 29 were male respondents.

Around 92 (87%) respondents were unmarried and 14 (13%) were married.

78% respondents were in the age group of 25-29. Out of 77 female respondents, 74 (96.1%) were Covid infected during the postings. Out of 29 male respondents, 21 (72.4%) were Covid infected during the postings.

The majority of respondents (73 respondents) who were Covid infected during posting was part of the age group 25-29.

Assessment Of Learning Of Anaesthesia Management

68% of respondents could not identify difficult airway in pre-op evaluation. 78% of respondents could not identify difficult spinal as there was no exposure to routine and speciality cases. Even during Covid-19 pandemic, 86% of respondents could perform basic preparation of operation theatre like checking Anaesthesia work station, defibrillator, preparing airway trolley and keeping emergency drugs. 79% of respondents were able to perform intubation in not more than 3 attempts which is otherwise easily performed by senior resident. However, 66% of respondents cannot perform the spinal, epidural without multiple procedure attempts (pricks less than 3) in patient with normal spine anatomy. Only 46% of respondents could understand the basic intra-operative management like assessing the blood loss, maintaining the normotension and normocapnea. 67% respondents could not understand or rectify intra-op mishaps like equipment failure, circuit disconnection, intra-venous line disconnection etc. Only 21% of respondents were able to manage a case in post-op period like management of mechanical ventilation, correction of acid-base electrolyte imbalance, hemodynamic monitors etc. Rest were either neutral or did not agree to the statement.

Academic Impact Of Covid-19 On Anaesthesia Residents

The majority of respondents (72%) agreed that covid 19 pandemic had affected the practical skill training like securing IV/ regional anaesthesia/ intubation. 85% of respondents agreed that routine and emergency rotation in different Operation Theatres were affected. 84% of respondents agreed that routine academic activities were affected. 82% respondents agreed that the thesis related work

was affected. Majority of respondents were positive on the new methods of teaching and learning such as Case based teaching, Peer group discussion and simulation-based training.

SUMMARY & CONCLUSION

According to our study to assess the academic impact of Covid 19 on anaesthesia residents of teaching hospitals in metropolitan city, most anaesthesiologists serving on COVID-19 duty experience some level of anxiety and insomnia. The majority of anaesthesiologist reported Covid 19 had a negative impact on learning of anaesthesia management. Majority of anaesthesiologist strongly agreed on impact of Covid 19 on the academics including practical trainings, routine academic activities, thesis related work. However, they also had positive response towards new ways of teaching and learning such as case-based discussions, peer group discussion and simulation-based training.

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