



Original Research Article

What I learned as an administrator, teacher and, a practicing surgeon during the Covid 19 pandemic

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ABSTRACT

Coronavirus Disease 2019 (COVID-19), caused by SARS-CoV-2 (Severe Acute Respiratory Syndrome - Coronavirus-2) which appeared in China in December 2019 has involved every continent on Earth, even Antarctica, in less than a year. In this period it has caused untold havoc on the entire healthcare system worldwide. We are facing challenges on multiple fronts like densely populated cities, overcrowded public transport system, lack of awareness about the disease dynamics and importance of personal hygiene in a pandemic situation, and most importantly a strained economy. But the silver lining is a predominantly young population in whom the case fatality is low. The crisis has provided us with an opportunity to assess our shortcomings and revamp the healthcare delivery and medical education of our country.

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1. Introduction

In the pre-pandemic days, the world's health care delivery system was burdened by non-communicable diseases, with 70% of the deaths being attributable to chronic diseases like diabetes, cancer, heart diseases, and chronic respiratory illness.¹ Experts predicted that globalization, urbanization, and a steady wave of interconnectedness among humans and animals (and virus jumping the species) has created a perfect storm for new pandemics which may sweep through the human population destroying millions of lives.² The 1918 influenza pandemic had infected 500 million people (1/3 of the world's population at that time) and caused roughly 50 million deaths, to put it in perspective more people died from it than the total number of military and civilian deaths in battle during all twentieth-century wars combined.³ In 2002, Sir Martin Rees accurately predicted that within 20 years misapplied knowledge of robotics and nanotechnology will create lethal "engineered" airborne viruses and rouge nano-machines that replicate

catastrophically. These products of bioterror or bio error would wipe out a million people.^{4,5} Few others also predicted that we are being pushed towards the center of the storm and a pandemic will strike soon and cause massive devastation.⁵ The present COVID-19 pandemic has presented the healthcare system with unprecedented challenges and a once-in-a-lifetime experience to review our present health-care training and delivery system, and its shortcomings.

2. Rendezvous with Destiny

I joined one of the peripheral postgraduate teaching institutes of West Bengal, catering mostly to the neighboring rural and backward districts of the state, approximately a year before COVID 19 was declared a pandemic by the WHO on 11th March 2020.⁶ I took the charges of the Head of the Department of Surgery 6 months later. Before this assignment, I worked for more than a decade as a Professor of Surgery in an apex institute of West Bengal but had no administrative experience whatsoever. Even before I could acquaint myself with the administrative nuances at

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the new place of my posting, the coronavirus diseases 2019 (COVID-19) outbreak occurred and it continues to spread rapidly across the world with 141,754,944 confirmed cases and 3,025,835 deaths as of 19th April 2021.⁷ Pandemics are unpredictable and the sharp increase in the demand for medical care, especially in a peripheral institute like ours, is not only severely taxing on the already scarce resources but is also a challenging situation to the hospital administration. My learning over the last few months is summarized in the following sections.

3. As an Administrator

Though we are not directly involved in the treatment of the COVID patients, the administrative liability of screening patients for COVID infection, judicious utilization of available resources and manpower, continuing emergency and other routine services were weighing heavily on me during the initial days of the pandemic. The administrative council of the medical college, of which I am a part, took certain major decisions with the above goals in mind. Patients were advised not to venture into hospital premises unless essential. Outpatient departments (OPD) were kept running. Volunteers ensured that social distancing was maintained and everyone wears mask. All elective surgeries except those for malignant diseases, progressive diseases (e.g. vascular disease), and some debilitating illnesses (e.g. choledocholithiasis, pyloric stenosis, etc.) were postponed for initial 5 months, thereafter started in a phase-wise manner. Evaluation of the risks of delay was left to the treating surgeon.

Senior surgeons (>50years) who are more likely to have co-morbidities like hypertension, ischemic heart disease, chronic lung diseases, diabetes, obesity and are at risk of developing moderate to severe illness following COVID infection.^{8,9} They were initially advised to avoid OPD visits and ward rounds as far as possible to obviate the risk of serious shortage of senior consultants (in case they were quarantined). Others who were coming directly in contact with unscreened patients were initially instructed to attend the hospital for 7 days and work from home for the next 14 days. The idea was to expose only a few of them to infection at any given time and keep those exposed to the hospital environment on self-quarantine for a period in which almost all infected persons will become symptomatic.⁸ Such restrictions were gradually eased after 6 months as the positivity rates started declining.

With a coordinated administrative and clinical endorsement, the peripheral multi-specialty hospitals were advised to be more proactive. Patients who could be managed in such hospitals were transferred, after preliminary management with necessary clinical notes and advice, to their nearest multi-specialty hospitals. This went a long way in overcoming the mindset of blanket admissions that pre-existed in this medical college leading

to unnecessary overcrowding. Patients attending the surgical emergency and requiring admission in this institute are initially admitted in the Observation Wards (yellow zone). Nasopharyngeal and oropharyngeal swabs from these admitted patients are collected by the trained 1st-year surgical residents and tested for COVID 19 by Real-time RT-PCR (reverse transcriptase-polymerase chain reaction) or TrueNAT (chip-based automated RT-PCR test). Rapid antigen test kits are used at night and on rare occasions when the supplies of RT-PCR/ TrueNAT kits get exhausted. Only those testing negative by RT-PCR/ TrueNAT are shifted from the yellow zone to the surgical wards (green zones) as soon as possible either after emergency surgery or otherwise. The most experienced member of the surgical team always made an in-depth assessment to decide whether surgery is imperative or may be postponed. The latter is always preferable in the pandemic scenario.

Patients negative on Rapid antigen test are tested sequentially by RTPCR for confirmation at the earliest opportunity because of its high false negativity rates (ability to detect true positives i.e. sensitivity ranged from 50.6% to 84% while true negative i.e. specificity ranged from 99.3 to 100%).¹⁰ Positive test should be considered as a truly positive and does not need reconfirmation. Though no individual test is 100% accurate due to the changing characteristics of the virus, the most accurate and gold-standard testing method for COVID 19 to date is the RT-PCR test.⁹ All rapid test results are routinely uploaded in the ICMR COVID 19 portal by the surgical residents.

Residents are advised to wear PPE (Personal Protective Equipment) and N-95 masks while collecting swabs. They have been repeatedly stressed to follow proper donning and doffing sequence and to dispose of the PPE in dedicated areas. For routine surgical and examination procedures use of two triple-layered surgical masks was advised. Strict attention to hand hygiene, frequent use of hand sanitizer, avoiding close contacts and considering the possibility of COVID-19 infection in every patient were stressed upon.

All patients are told to follow the infection control strategies in health care settings like wearing masks, frequent hand washing, and not to share cups and other utensils, and follow respiratory hygiene practices. The visits by relatives are restricted as far as practicable. Regular sanitization of wards, corridors, toilets, and other common spaces are ensured. Ours is not a COVID hospital yet, as such those who tests positive are shifted to a nearby designated COVID multi-specialty hospital, provided they are in a stable condition, either for necessary surgical interventions/observation or conservative management along with the necessary management for COVID infection. We also maintain an on-call roster for the senior residents in case their services are required in the COVID hospital. Those who required emergency surgeries but are not in a position to be transferred to the COVID

hospital are operated on in our hospital with all necessary precautions. Decisions to operate are made, as usual, jointly with the anesthetic team taking into account the likely need for ITU and its availability. These patients are shifted to the red zone postoperatively and multi-disciplinary treatment continued till the patient was stable enough to be shifted to the COVID hospital.

We are trying to reduce the in-hospital stay as far as practicable and patients requiring minor surgical interventions are treated on a day-care basis with advice to attend nearby hospitals for procedures like removal of sutures, packs, drains, or for the dressings. As per ICMR guidelines, frontline workers are advised to get themselves tested if:

1. They developed an influenza-like illness.
2. Asymptomatic direct and high-risk contacts (those with chronic lung, heart, liver kidney diseases, diabetes, neurological disorders, blood disorders) of a confirmed case to be tested once between 5 day and day 10 of coming into contact.¹⁰

A symptomatic health workers who are close contacts i.e. were within about 6 feet of a confirmed case during the case's infectious period are advised to be on self-quarantine (to prevent the spread of infection) for 5 days and then get themselves tested, if negative, they are asked to rejoin work. Workers confirmed positive by RT-PCR and having mild symptoms are immediately shifted to safe homes for isolation and necessary treatment by experts. Isolation is advised for at least 10 days plus an additional 3 days without symptoms. Those with asymptomatic infection are told to remain in isolation for 10 days from the time of testing positive few health workers of our institute had moderate/severe symptoms and shifting to COVID hospital was required.

About a year since the outbreak began in the Huanan Wholesale Seafood Market of the city of Wuhan, China in December 2019,^{11,12} things were gradually coming back to normal in our hospital but with the onset of the second wave things started becoming force. The OPD attendance had returned almost to pre-pandemic days (number of new patients on a given Monday in December 2019 was 258 and 107 in May 2020 as against 203 in December 2020). The average daily inpatient census has also increased considerably but is much lower than before as we are still admitting patients who genuinely require inpatient treatment in a tertiary care center (57 in December 2019 as against 26 in December 2020). The number of both emergency and elective surgeries had also picked up considerably over the last few months. Despite all the precautions our frontline workers are getting infected regularly. Around 13 faculties, 23 junior doctors, 72 nursing staff, and 06 paramedics & others got infected till January 2021. Sometimes all the first rung doctors of a unit are

getting infected and their isolation is harming the output of the concerned units.

4. As a Teacher

The teaching program of this institute encompasses the undergraduate (UG), postgraduate (PG), paramedical, and nursing students. With an annual intake of 200 undergraduate students per year, the hostels, canteens, lecture theaters, and examination halls are all potential places for viral transmission. Keeping this in mind the college authorities had decided to stop classes preemptively towards the end of March 2019 coinciding with the nationwide lockdown. The rotational clinical postings of the UG students were also suspended. Colleges cannot be closed indefinitely, the closure will merely delay the spread of the disease. Once they reopened the disease started spreading invariably as evident from rising positivity rates.

Apprehensive of the long-term negative impact of the temporary closure of the colleges, both the teachers and the students were struggling with multiple approaches to tide over the crisis. An online learning platform was one option to continue the teaching program without interruption. Online teaching has been demonstrated to be as effective as traditional didactic teaching with added advantages of delivery of the recent evidence-based contents it also promotes self-directed learning.¹³ Many senior teachers had to adapt themselves to the new mode of teaching despite initial reservations. In the absence of interactive communications with the patients, virtual case presentations (and even virtual conferences) became a norm. I found online teaching and interaction useful because of the flexibility of time and duration, and better student attendance. Teachers also devised innovative ways of online assessment. This crisis allowed us to explore as yet untested technology-based medical education. The future of medical education in the post-pandemic era is set to be transformed through the use of emergent technology because of its wide acceptance among both teachers and students.¹⁴

According to a circular of the National Medical Commission (No: Legal /01 /2020; dated 30-09-2020) online classes have been approved and made valid for teaching during the current Covid-19 pandemic only as all UG students were advised to stay at home to reduce the spread of the virus. It also said that such online theory classes are required to be supplemented by practical and clinical training as per the current curriculum in all MBBS subjects in the Colleges/Institutions and affiliated hospitals as and when colleges reopen. To avoid congregation in seminar rooms, postgraduate teachings were also carried out either online or in small unit-wise groups. Seminars, audits and group discussions have been started since November 2020 for the 1st year and final year residents (case presentations are still being done online). Monthly tests for those in final year continued as usual taking COVID

preventive measures.

With the COVID 19 pandemic unlikely to end any time soon, the National Medical Commission (NMC) had circulated a letter from Secretary, Health & Family Welfare, Government of India dated 25-11-2020 (No. NMC/Secy/202-/05) to Chief Secretaries of all states to open medical colleges on or before 1.12.2020 and revised academic calendars of MBBS batches to maintain standardization of medical education. In the best interest of the students, following the guidelines of the Government regarding prevention and transmission of the virus, a schedule for an intensive crash course for 4 batches of students had been designed by us for approximately 30 hours of hands-on clinical ward teaching and tutorials on surgery (and other clinical disciplines for similar duration) for each batch followed by an internal assessment examination. We kept aside a sufficient number of beds only for teaching. Positive feedback from students about these classes is encouraging. The time limit for completion of the internship has been extended by 2 months to compensate for the "lost" period during the lockdown (NMC Advisory No NMC/UGMEB/25447; dated 09-12-2020). Both the UG and PG examinations for the '20-'21/ '21-'22 sessions have been postponed by the NMC. As per the NMC directives the current batch of internees have to be posted for COVID duties to augment the medical man power (NMC Advisory No NMC/secy/2021/27; dated 03-05-2021).

5. As a Practicing Surgeon

Being the administrative head of a major clinical discipline I knew that this is an exceptional situation that we are passing through and I might be called upon to take quick, major decisions at any time. It is expected that my team should be available to provide service beyond the scope of usual practice, even deployment in non-surgical roles if the need arose. All these required a willingness to curtail one's private practice to a certain extent and that I did.

I have my private practice beyond the official duty hours and have my own experiences to share. At the beginning of the lockdown, I stopped my clinic based private consultations. Round the clock televised coverage and social media posts about the devastation the virus was wreaking worldwide, especially in China and Italy, the grim predictions for India in the days to come, the vision of closed stores, locked doors, stray dogs roaming free on once-bustling streets and the wailing sirens of running ambulances were a cause of intense panic in my family. Not unknown, extreme panic reaction and depression was evident in some of my colleagues to an extent that it prevented them from coming outdoors and spend sleepless nights.¹⁵ Before the pandemic, for years together, my life was stuck in a routine of hospital and college activities in the daytime and private practice in the evening. By the time I reached my home at night, I was planning for the next

day. I hardly had any time for my family. But the pandemic changed everything overnight. I was stuck indoors after sundown. I rediscovered the joy of spending time with the family. As an icing on the cake my son was also working from home as he was asked to by his employer. I had plenty of time to read, teach online, devote more time to my primary engagement, and even cook meals along with my wife. I did occasional online/telephonic consultations, on request, as patients were also scared of venturing out of their homes. The mad rush for earning gradually gave way to a sense of containment out of the enjoyment of the joys of personal relationship that I missed so long. As months rolled by, I got habituated to my new lifestyle; it seems some reduction in personal income is hardly a matter of concern for me now. Of late I have started limited consultations and surgeries in the private setups but it is nowhere near what I used to do in the pre-pandemic days. Many patients are seeking Information and Communication Technology (ICT) -based consultation worldwide and I find similar trends in India as well.¹⁶

6. Conclusion

The COVID-19 outbreak in India has altered the society, economy, and entire healthcare system. During this time we have realized that we were ill-prepared to deal with a pandemic of the present magnitude and at the same time learned how to live with a virus that has infected millions. The lessons we learned have taught us to live life in a different fashion. We have learned to live with our faces covered and travel with a sanitizer in our pocket. We are refraining from shaking hands and unnecessarily touching our nose and mouth. We have learned how fragile our life is and how an invisible enemy can wipe out our lifetime earnings in one fell swoop. We have rediscovered the joy of giving more time to our family instead of an endless pursuit for self-defeating goals. We have understood the importance of a secure government job which ensured that our salary reached our account even during prolonged shutdown. We realized the importance of supporting the needy in the time of crisis. We have realized the importance teamwork in the care of patients. Though effective vaccines have been developed and 843,158,196 doses already administered as on 19th April 2021, more virulent new strains with multiple spike protein mutation (VUI-202012/01) have emerged.^{17,18} With the second wave wrecking havoc all over the world especially in India it is quite apparent that many challenges still lie ahead. We have come out stronger as a team and can fight the scourge with all our might. All will not survive the battle but those who do will have a better world to live in.

7. Source of Funding

None.

8. Conflict of interest

None.

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