



Original Research Article

COVID-19 pandemic: Continuum of adjustments and reorganizations justified

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ABSTRACT

The year 2020 came with one of the biggest challenges of the century to mankind in the form of the COVID-19 Pandemic. Reorganization of the institutional facilities with the reallocation of resources and continuous reshuffles in the manpower became the need of the hour to cater to the onslaught of the pandemic. We at the SKIMS are proud of having handled the pandemic very efficiently on scientific lines. The biggest challenge was to handle the load of COVID-19 patients and simultaneously prevent its spread in the hospital and ensure that non-COVID patients don't suffer. COVID-19 has changed a lot of things in the recent past. It has affected not only the social aspect of our lives but has put a lot of burden with changes on our day-to-day work culture and pattern. Reorganization of the hospital infrastructure with adjustments on the demand of the situation is vital for combating the overwhelming number. Most of the hospitals have stopped elective admissions and are catering to only emergencies and semi-emergencies, including malignancies. So, the patients who have disorders or deformities who can wait have been put on abeyance. Hospital staff is also hugely burdened. On one hand, they have to cater to their own duties plus the duties of those who turned positive. They are most vulnerable to infection and run a high risk of developing psychological symptoms. There has been a change in the pattern of the emergencies. There have been more cases of domestic trauma as well as agricultural trauma with a fall in road traffic accidents.

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1. Introduction

COVID-19 has changed a lot of things in the recent past. It has affected not only the social aspect of our lives but has put a lot of burden with changes on our day-to-day work culture and pattern. India registered its first COVID-19 case on January 30, 2020. Under section 69 of the Disaster Management Act, 2005, the Government of India issued an order on 11th March 2020 to delegate the power to the Secretary, Ministry of Health and Family Welfare to intensify the preparedness to curb the pandemic. 'Prevention rather than cure' being the only practicable option to cut down the spread, India, along with many other countries launched complete nationwide lockdown, beginning from 25th March 2020, and discontinued traveling by different

means to prevent the spread of the infection.^{1,2} Prior to this on 22nd March 2020 (Sunday), India observed a 14-hour voluntary public curfew at the instance of Prime Minister Narendra Modi. All services were suspended with the exceptions of essential and emergency services. The purpose of all these restrictions was to check the community transmission of the virus and to flatten the upgoing curve of perpetuating pandemic.²⁻⁵

2. Behavioral Change

The best way to prevent and slow down transmission is to be well informed about the disease characteristics like the routes of transmission, infectivity, preventive/precautionary measures, and soon. As such the usual behavior of the people has changed- they have become more hygienic, health oriented, and disease-cautious. Many mitigating

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measures, such as face masks, face shields, frequent hand washing or using an alcohol-based rub frequently, social distancing, staying self-isolated at home, avoiding crowded places, adhering to respiratory etiquette, and not touching eyes, nose, or mouth and face with unwashed hands have been implemented to limit the transmission.³⁻⁷

3. Health Care

Putting marked stress on the health care system, the Covid-19 pandemic subjected health institutions to substantial management changes and reshuffle. There had been a significant change in the organizational structure and practices of hospitals across the globe. The reorganization of the hospital system to limit the risk of exposure to the disease in patients as well as the attending staff, while retaining enough resources for managing both COVID and non-COVID patients was a daunting task.⁷⁻⁹ The significant restructuring is called for to maximize the number of beds available for the overwhelming number of patients needing hospital admission. Furthermore, COVID-19 essentially swapped the demands with relatively higher pressure on medical and critical care specialties compared to surgical disciplines. This resulted in an adaptable reallocation of resources to meet demand. The aim is to preserve emergency medical or surgical services with stringent control measures to check the disease transmission amongst healthcare workers.¹⁻¹⁰ All elective surgeries are being canceled and other disciplines are necessitated to curtail routine admissions. Surgical emergencies, oncologic surgeries, and vital organ transplantations were continued unabated. So, the patients who have disorders or deformities who can wait have been put on abeyance. These patients include the patients with congenital disorders like cleft lip palate, hypospadias, congenital hand and foot deformities, vascular malformations/ haemangiomas, benign diseases like lipomas, and aesthetic procedures such as fat grafting, face lift, hair transplant, and so on. There is a consistent fall in the outpatient department attendance; many more are being managed at the primary level. People tend to recognize hospitals as a major potential source of the virus, and as such, almost all hospital services, including emergency department traffic, experienced a significant decline.⁵⁻⁷ Private-public partnerships are being ratified to enhance the preparedness capacity. Community centres, recreational establishments, hotels and lodges are being upgraded such that they may be easily converted into screening centers or community isolation facilities. All these adjustments, readjustments, and modifications in accordance with the concurrent situation and gradual unfolding of the newer realms of the disease have become a dynamic one. So, these re organizational measures are to be reassessed and revisited very often to coup up with the changing paradigms.¹¹

4. Surgery

To de-escalate the ward as well as out-patient clinic attendance, all routine surgeries are held back. This also reduces post-operative care significantly. Only emergencies and cancer surgeries are being catered. Aerosol-producing procedures during anesthesia are avoided to the maximum with a preference for regional/local anesthesia. Reports from the United Kingdom ratified the utilization of these techniques as a priority. Whereas the rate of patients operated under general anesthesia during pandemic has reduced with a consistent increase in regional blocks, there are certain conditions where general anesthesia cannot be replaced.¹² Furthermore, performing surgeries under Wide Awake Local Anesthesia no Tourniquet in hand trauma is gaining enthusiastic response in the backdrop of the pandemic.¹ It is the responsibility of the faculty-in-charge to make requisite changes and adjustments in the department.

It may include ward rounds taken preferably by a single person. The anesthesiologists recruited to the operation theaters are gradually reassigned to the newly reorganized intensive care units (ICUs) as the number of active elective theaters was reduced in number. All medical care and nursing are performed using maximal individual protective measures, including the use of masks, disposable and protective aprons, gloves, protective headwear, and glasses. For urgent surgeries, an emergency room has been specially equipped for negative patients. A second room is reserved for COVID patients or with awaiting results. Patients requiring emergency surgical management are treated in the dedicated operating room dedicated to these patients. Patients are then hospitalized in the COVID unit.⁹

5. Trauma

Despite restrictions imposed by dint of government-sponsored lockdown, trauma and surgical emergencies proceed to stand in need of hospital admission. Furthermore, with the lockdown measures in place, the disease conditions show changes in presentation. Late presentations of common conditions, changes in the injury patterns and causation with enhanced morbidity in patients with associated COVID-19 infection are some of the consequences.^{1-10,13} Changes in the behavior of the masses bring about attendant changes in the injury pattern.⁷ There has been a change in the pattern of the emergencies. There have been more cases of domestic trauma as well as agricultural trauma. Agricultural trauma is increased by more and more use of motorized machinery for various agricultural practices. We observed a significant decrease in burns of all types. However, we found burns mostly presenting after a delay of few days to few weeks as they fear to come to the facility which caters to both COVID and non-COVID patients. Most of these burn cases were critical and were referred to our tertiary care when management at

the local hospital became impossible. Many of our patients turned out to be positive during their hospital stay. These include, among many, burn patients, diabetic feet. Many of the patients (traumatic) were positive before surgery. So, surgery used to be deferred. Such patients like raw areas were managed conservatively by dressings and later operated on after turning negative. By and large, COVID-19 contributed distinctly in decreasing the footfall of patients presenting with injuries. One study observed a more than 40% decline in trauma admissions. This may reflect a higher threshold for trauma patients being managed in the primary care setting, as well as a reluctance for patients to present to the hospital in fear of the virus. The COVID-19 attributed decrease in activity and movement has led to a decline in traumatic injuries-road traffic accidents and industry-related injuries. It has been reported that the decrease in trauma cases ranges from about 20% to $\geq 80\%$ in comparison with the pre-pandemic period. The reduction in sports-related injuries can be attributed to the cessation of group sports activities as well as the closure of fitness centers, aerobic studios, sports clubs, and recreational centers.¹⁻¹⁴ In view of social distancing and isolation, there is an expected decline in injuries related to disputes, assaults, and interpersonal violence. In contrast, certain reports from the USA and Europe indicated a rise in trauma due to assaults. A report by Dhillon et al. from India noted similar results. Besides, gun violence incidents to have shown an increase in some American cities when compared to the previous year.^{6-10,13}

There was an expected increase in domestic accidents in children, as an additional collateral damage of long-term home isolation. Recent data has shown that the severity, as well as the numbers of pediatric domestic accidents, have significantly increased in contradiction to 2019. With this, a decrease in injuries of children sustained at school and sports-related injuries in them are also observed. However, a report from Belgium and another from Australia indicated a simultaneous increase in paediatric trauma along with the reduction in adult trauma during the pandemic.¹⁻⁶ Some studies reported a paradoxical escalation in the injuries occurring in the streets, which may be due to more children and young adults spending free time in the street in the absence of scheduled school or work.¹ Additionally, another study from Australia reported no change in pediatric trauma requiring institutional admission.¹⁵

The prolonged isolation from friends and relations with attendant unremitting health strain has led to many psychological and emotional disturbances. It is compounded by fiscal issues due to the sudden loss of jobs by many, and many more experiencing pay slashes. The increase in alcohol consumption and substance abuse may be a result. Many psychiatric disorders like anxiety, depression, psychological breakdown, and so on have found a way out. Depression symptoms have exhibited a 3-fold rise during the present crisis. The World Health

Organization (WHO) has asked the countries to take measures to curb the menace of domestic violence showing an acute escalation amidst lockdown.²⁻⁶

The sudden change in lifestyle of families with social isolation, cessation of online shopping and delivery of daily household needs, the mandatory wearing of masks while moving out, standing in long queues for essentials, sanitization of all purchases, vigorous cleaning of all frequently touched surfaces at home, domestic help on leave, and above all, 'work from home' took its toll chiefly on the working adults. Meeting the demands of children full-time at home and the needs of elderly parents (most with comorbidities) without any domestic aide available makes it exhaustive. All these pressing tasks combined with the accomplishment of various unaccustomed household chores make them vulnerable to many injuries. Unfamiliarity with the working of common kitchen gadgets remains the prime cause of trauma, especially to hands. Execution of multiple tasks at a time with constant distractions by mobile phones happens to be the most frequent associates when inquired.⁶

6. Health Professionals

Health professionals are feeling vulnerable while attending to infected patients as well as managing traumatized and critically ill patients and their health security should be ensured as far as feasible. Many studies report that thousands of health professionals have already been infected, while many among them succumbed to the disease. The well-being of the health workers is a major challenge, threatening the universal reaction to the disease. Unfortunately, the infection of front line warriors and the risk of ensuing casualties are feared to encounter at all stages of the pandemic so far. Losses of contaminated health professionals, both temporarily or by demise, overtax the health systems throughout the world. A study from Wuhan, China regarding the psychological effects of the pandemic among the health workers, identified high rates of depression, anxiety, insomnia, and stress among them. Many international medical organizations and societies have come up with practice guidelines to minimize the risk among the health communities around the world.¹¹⁻¹⁸

7. Conclusion

'Don't ever let a quandary wend useless', holds good here. The challenges that were contemplated invincible at the outset have later transformed into opportunities. Execution of essential changes within a short span seemed a daunting task. Reorganization of the infrastructure with timely adjustments and readjustments as the situation kept on unfolding can be justified by the outcomes. Day-to-day modifications of the protocols, keeping in view the disease demographics, resource availability, and manpower at hand,

proved to teach us the importance of regular assessment and teamwork in curbing the spread of disease. The key to success is striking a balance in providing incessant quality services to the community with concomitant safeguarding of health care workers by strong teamwork coupled with the selfless attitude of all.

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None.

9. Conflict of interest

None.

References

1. Waseem S, Nayar SK, Hull P, Carrothers A, Rawal J, Chou D, et al. The global burden of trauma during the COVID-19 pandemic: A scoping review. *J Clin Orthop Trauma*. 2021;12(1):200–7.
2. Maryada VR, Mulpur P, Guravareddy AV, Pedamallu SK, Bhasker BV. Impact of COVID-19 Pandemic on Orthopaedic Trauma Volumes: a Multi-Centre Perspective From the State of Telangana. *Indian J Orthop*. 2020;54(S2):368–73.
3. Sharma M. COVID-19 (An International Trauma): A Brief Analysis on Research Trends, Impacts, and Solutions”. *Int J Res Appl Sci Biotechnol*. 2020;7(2):1–8.
4. IMPACT OF COVID-19 ON INDIA INC.; 2020. Available from: <https://www.cyrilshroff.com/wp-content/uploads/2020/03/IMPACT-OF-COVID-19-Coronavirus-on-India-Inc.pdf>.
5. Koliyath S, Chittoria DRK, Gupta S, Chirra LR, Mohan PB, Pathan I, et al. Covid-19 Pandemic And Changes In The Plastic Surgery Activity In A Tertiary Care Centre In Pondicherry. *South East Asia J Med Sci*. 2020;4(4):10–5.
6. Gupta R, Gupta R. Change in spectrum of hand injuries during COVID-19 lockdown period: Increase in mixer grinder and domestic violence-related injuries in lieu of trauma sustained in outdoor activities. *Indian J Med Sci*. 2020;72(2):65–70.
7. Devarakonda AK, Wehrle CJ, Chibane FL, Drevets PD, Fox ED, Lawson AG, et al. The Effects of the COVID-19 Pandemic on Trauma Presentations in a Level One Trauma Center. *The Am Surg*. 2020;p. 3134820973715.
8. Schoenbrunner AR, Sarac BA, Janis JE. A Summary of Recommendations for Plastic Surgeons during the Coronavirus Disease 2019 Outbreak. *Plast Reconstr Surg Glob Open*. 2020;8(8):e3039.
9. Philouze P, Cortet M, Quattrone D, Céruse P, Aubrun F, Dubernard G, et al. Surgical activity during the Covid-19 pandemic: Results for 112 patients in a French tertiary care center, a quality improvement study. *Int J Surg*. 2020;80:194–201.
10. Grippaudo FR, Migliano E, Redi U, Turriziani G, Marino D, Ermo GD, et al. The impact of COVID-19 in plastic surgery departments: a comparative retrospective study in a COVID-19 and in a non-COVID-19 hospital. *Eur J Plast Surg*. 2020;43(5):645–50.
11. Ding B, Tan KG, Oh JY, Lee KT. Orthopaedic surgery after COVID-19 - A blueprint for resuming elective surgery after a pandemic. *Int J Surg*. 2020;80:162–7. Available from: <https://www.l.cgmh.org.tw/library/hold/covid-19/covid-19-90604.htm>.
12. Park C, Sugand K, Nathwani D, Bhattacharya R, Sarraf KM. Impact of the COVID-19 pandemic on orthopedic trauma workload in a London level 1 trauma center: the “golden month”. *Int J Surg*. 2020;91(5):556–61.
13. Junior M, Campos T, Lima DS. The trauma and acute care surgeon in the COVID-19 pandemic era. *Revi Colégio Bras Cirurgiões*. 2020;47:556–61.
14. Rhodes HX, Petersen K, Biswas S. Trauma Trends During the Initial Peak of the COVID-19 Pandemic in the Midst of Lockdown: Experiences from a Rural Trauma Center. *Cureus*. 2020;12(8):9811.
15. Wong FL, Antoniou G, Williams N, Cundy PJ. Disruption of paediatric orthopaedic hospital services due to the COVID-19 pandemic in a region with minimal COVID-19 illness. *J Child Orthop*. 2020;14(4):245–51.
16. Lip HTC, Huei TJ, Mohamad Y, Alwi RI, Tuan Mat TNA. Critical adjustments and trauma surgery trends in adaptation to COVID-19 pandemic in Malaysia. *Chin J Traumatol*. 2020;23(4):7255157.
17. Bressan S, Gallo E, Tirelli F. more domestic accidents than COVID-19 in children Archives of. *Dis Child*. 2021;106:3–3.
18. Chigurupati R, Panchal N, Henry AM, Batal H, Sethi A, nncenzo RD, et al. Considerations for Oral and Maxillofacial Surgeons in COVID-19 Era: Can We Sustain the Solutions to Keep Our Patients and Healthcare Personnel Safe? *J Oral Maxillofac Surg*. 2020;78(8):1241–56.

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