

Lessons from the frontlines: a junior doctor's experience of the first wave of the COVID-19 pandemic in a resource-limited setting

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ABSTRACT

COVID-19 has stressed healthcare systems across the globe. We present the experience of an intern medical officer working in a tertiary care hospital during the first wave of the pandemic in Sri Lanka. Her narrative describes how the stress of the pandemic brought into sharp focus the strengths and weaknesses in the health system. We suggest some strategies to improve our health services as the world faces the second wave and an uncertain future. These include structural changes in healthcare services at institutional and national levels, focused educational programmes for healthcare professionals to impart generic skills of disaster management, and the development of telehealth services and computerisation of health systems. We believe that we must maintain this focus to ensure that our patients can be guaranteed quality healthcare in the future.

INTRODUCTION

Sri Lanka is a low-income and middle-income country (population of 21.7 million) that is now facing a second wave of COVID-19. The country has a dominant state-run health service that provides free healthcare to the user. The high rates of literacy and welfare orientation have enabled the country to achieve favourable health outcomes at a relatively low cost.

The country was fortunate in successfully crushing the first wave of COVID-19 in March and April 2020 due to strict contact tracing, institutionalised quarantine and provision of care for all PCR-positive individuals. However, for many of us in the hospitals, the pandemic was an unprecedented crisis which created fear and anxiety. At the outset, few predicted the scale and speed at which this would spread, and, despite initial warnings, little preparation was made. We experienced and learnt many lessons on the way which

we wish to share. The intention is to use these experiences to improve our health services and to make it a more caring and resilient organisation. The paper describes the experiences of the first author (SB) during her period in the front lines, followed by a discussion on the lessons learnt and the way forward.

NARRATIVE: THE FIRST WAVE

I was halfway through my first internship appointment in a teaching hospital in Colombo, Sri Lanka, in December 2019, when I heard of the COVID-19 outbreak in Wuhan, China. To me it seemed a vague and distant issue in a place far away. The long work hours running around wards meant that I did not have much time to worry about an obscure viral infection in the wet markets of China.

Over the ensuing 3 months, the virus started to spread rapidly across borders with soaring hospital admissions and deaths worldwide. COVID-19 was first identified on Sri Lankan soil on 27 February. A Chinese tourist was detected to have the infection just before her intended departure. Panic began to set in, and on 11 March, the first Sri Lankan diagnosed with COVID-19 was a tour guide, leading to closure of airports and schools.

At first, I heard of scattered cases of overseas travellers or their contacts becoming positive. Then came lockdowns in the city, curfews and opening of quarantine centres to close contacts of patients. Almost overnight, our complacency was replaced by the daunting prospect of a pandemic making its mark right here at home.

I began my intern rotation in internal medicine at the university medical unit in Colombo in March 2020 on the background of the looming pandemic. Triage criteria were set up at the outpatient department. Despite strong efforts at quarantining contacts, the medical wards became a hotbed for patients suspected of having COVID-19.

Fear grips the wards

At the beginning, there was palpable fear among health workers as the news stories from Europe of overflowing hospitals and mortuaries had made COVID-19 almost synonymous with death. Social media commentaries regarding patients with COVID-19 were often stigmatising and added to the fear of contracting the disease.

On a routine day, before the pandemic had taken hold, the wards would be constantly filled with patients, often exceeding the capacity of our beds, with some having to be accommodated on mats on the floor. Daily admission rates per medical ward were around 15–20, with a total of eight medical units each with its own male and female wards. Each ward (male and female), housing 45–55 patients, consisted of an open area with six eight-bedded cubicles, each separated from the next by half a wall. The distance between patients was less than the optimal 1.5 m, and ventilation was by open windows. The facility to use hand sanitiser was available only at the entrance to each cubicle, none of which had a wash basin. As a result, patients had to use the kitchen area and washrooms located at the distal end of the ward. The 'isolation unit' was nothing more than a four-bedded room at the corner of the ward, which was more often used for reverse isolation.

At the onset of the pandemic, each ward was managed by 11 consultants on a two per week rotation, two senior registrars, six registrars and four house officers (HOs). There were 8–10 nurses per ward, 3 attendants and 3 labourers. With a new rota system limiting staff to one-third, so service could be continued even in the face of exposure and quarantine of health staff, the available staff for duty became very limited.

The country had never been exposed to such an epidemic, and no one knew how to manage COVID-19. None had received training in the use of personal protective equipment (PPE). During the initial stages, PCR results took at least 2–3 days, and there was a severe limitation in the availability of PPE. Patients began to fear 'the virus' and would leave at the slightest indication of a COVID-19-positive patient in the ward. We witnessed anxious kidney transplant recipients self-discharging at as late as 09:00, out of fear.

Often, we HOs ended up drawing blood ourselves, assessing capillary blood sugar along with the initial clerking, jobs usually done by the nursing staff. Getting urgent investigations such as electrocardiograms,

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chest X-rays and non-contrast CT became a nightmare as technicians were afraid to expose themselves to patients suspected of the infection. This meant that we endured tremendous difficulties to make timely and accurate clinical decisions. Referrals and transfers to other specialities were hampered by requests for negative COVID-19 tests. These led to delays in investigations and interventions. Though many of the seniors on the team understood the situation, we as HOs felt extremely uncomfortable and oddly guilty when the required tests were not available.

However, the crisis inspired ingenuity and innovation. The nurses rallied to sew parts of the PPE like overalls and shoe covers, and made protective face shields. The student room in the unit was transformed into a makeshift factory to produce PPE. The hospital clinics liaised with the postal department to deliver drugs to patients' homes by mail to minimise unnecessary clinic visits, a timely decision as many medical clinics were subsequently shut down.

Crisis at our doorsteps

News spread fast of an epidemic in a nearby area of Bandaranayake Street, an impoverished and overcrowded urban settlement with poor living conditions. The outbreak exploded at a time when we were on-call for the 'COVID-19 ward'. This was a 34-bedded mixed-sex ward which was set up following the COVID-19 pandemic and reserved to handle those patients suspected of COVID-19, either due to symptoms or due to their travel or contact history.

Patients began to appear in our hospital in clusters from Bandaranayake Street, and this led to mass testing of patients for COVID-19. Community testing of patients had not been implemented at the time, and instead, large numbers of patients suspected of having COVID-19 and their contacts were referred to the hospital for testing. This caused a spike of admissions with large numbers, often hundreds, of suspected individuals occupying and overfilling the wards with inadequate beds to segregate them and insufficient staff. This scenario was to be re-enacted subsequently, when an inmate from the main prison complex (the Welikada prison) was detected to have COVID-19. This led to mass testing of all prison inmates who had arrived at hospital for unrelated illnesses.

With time, the hospital policies changed, and the testing streamlined. Community testing was increased and thereby referrals to our hospital for PCR testing abated.

However, this initial period was anxiety-provoking, traumatic and impacted patient care. Patients with non-COVID illnesses were requested to leave prematurely for follow-up in the outpatient department or other hospitals closer to home.

The three cases described as follows illustrate the crises we faced at the very beginning of the epidemic.

A woman in her late-50s was admitted with fever, a productive cough and shortness of breath. She was placed in the isolation room until the COVID-19 test was done and reports made available. Over the next few hours, she developed septic shock and needed to be moved to the high-dependency unit (HDU) for monitoring. The HDU had to be emptied of all other patients in the middle of the night so she could be kept in isolation. We donned our PPE and watched through the night until the patient was stable, sweating through those uncomfortable suits. The anxiety among health staff, particularly nursing staff and minor staff, was visible. At the end of their shift, they refused to go home until the COVID-19 report was available due to fears of endangering their loved ones. It is fortunate that she survived the ordeal.

We faced another unfortunate instance when a patient with chronic kidney disease and nephrogenic pulmonary oedema could not obtain a slot for haemodialysis due to uncertainty of her COVID-19 status. She was maintained through the night on continuous positive airway pressure, and we silently prayed that she would survive until we could get the patient to the intensive care unit (ICU) the following morning, which we did.

Finally, we had the sad story of an adolescent girl, directly admitted to the ICU with cough and fever, who died the following day. According to the parents, their child had been ill for several weeks and had been taken to hospitals on several occasions. However, she had been referred for outpatient follow-up. They believed that she had not been admitted or referred for further investigations due to the prevailing COVID-19 pandemic. Sadly, she was found to have disseminated TB on postmortem. Instances such as this perhaps breached the sacred ethical principles of autonomy, justice, beneficence and non-maleficence. Though always intending well by our patients, institutional restrictions and pandemic law, which places the public safety above the safety of the individual patient, left many vulnerable patients with suboptimal care. Above all, restrictions on contact and communication with patients pending COVID-19

results, and a culture of blame, left many patients feeling isolated and afraid.

All the aforementioned patients were unfortunate indirect victims of the epidemic. The moment there was even a whiff of COVID-19 testing, all categories of staff would be afraid to approach the patient and providing care became a struggle. It came to a point where my co-HO and I would think twice before suggesting COVID-19 testing. We worried that patient care would deteriorate until the COVID-19 results were released.

Back to relative normality

The first wave of COVID-19 created a lot of fear, but in the end very few were detected and within a few months the country returned to a state of near normality, only to be stressed again with the second wave in October 2020. Soon a new medium emerged and the panic subsided. The staff was able to provide better care to all patients, even when there was a high degree of suspicion, and often minimal PPE. This control of the first wave of COVID-19 was largely a result of the timely public health interventions. Just as the country was starting to move on, the second wave of COVID-19 began with community cases being detected for the first time.

DISCUSSION

Personal reflections

As an intern involved on the front line of patient care, I also had a front-row seat to this pandemic. Worldwide we saw the crippling failure of nearly all health systems. Many life-saving services and most routine clinical care of patients with chronic diseases came to a halt. There was initial panic among health staff fearful of the unknown, which was aggravated by a lack of preparedness and inadequate safety equipment. We witnessed the fear and helplessness of the public, often coupled with desperation as their sources of income were cut off. We have seen and experienced first-hand how pandemics are managed and mismanaged. We have learnt how to care for patients under trying conditions and use our meagre resources more efficiently.

After 5 years of medical school, it is during our internship that we become doctors. We arrive in wards hoping to do the best that we can by our patients. Reflecting at the end of my internship, I have often wondered about the extent to which the quality of care of patients has been affected during this COVID-19 pandemic as we tried to compromise

between our own ideals of good patient care amidst staff shortages, resource limitations, disruption of the care practices, and our own fears and concerns as well as those of patients and fellow health-care workers. These experiences made me ponder whether we abide by the ethical principles we studied in the classroom when our own fears and insecurities loom over us. My co-HOs and I have battled with these dilemmas and the moral distress and burden of the decisions that were made. Did our patient care focus more on the safety of the public and ourselves than on the welfare of the individual patient? Did we truly respect patient autonomy and the need for justice in care? Is this approach acceptable in a pandemic where the risk to millions might supersede the well-being and comfort of the one? Perhaps our consolation is that we have done the best we can in these unprecedented times and hopefully not done too much harm to our patients in the process.

Lessons learnt

We wish to use the crisis we faced during the initial stages of the COVID-19 epidemic as an opportunity to identify deficiencies in the training of students and doctors, and in the functioning of the health system. This real-life narrative of an intern highlights the relative lack of preparedness of our institutions and personnel to face disasters of this nature. We would like to outline a range of structural, organisational and educational deficiencies from which we and other resource-poor settings could learn.

Health professional education

Health professional education should include a component on handling disasters. Though there are modules in some of the medical schools, they are often isolated learning programmes, and some are web-based. These could be improved by linking with the institutions and providing practical hands-on experiences using simulated scenarios.

Watching patients struggle to stay alive until the next morning was a painful task and created a lot of distress. We later became aware of similar experiences of empathic distress across many other countries.¹ Understanding such distress and coping with it through compassion training is one option available to the health sector.² The staff felt helpless. This, together with the other issues, demonstrated a lack of formal psychosocial support available to the staff. Medical curricula too should address ways and

means of relieving stress during our work, for example, attending debriefing sessions, seeking for counselling and obtaining adequate rest.

In-service training

The staff were ill-prepared for emergencies of this nature. We had never undergone training or drills on epidemic preparation or in donning and doffing of PPE! Therefore, a formal in-service training programme is necessary for health staff of hospitals to tackle a few potential emergencies. Topics could include ward preparation for a contagion, handling a large number of casualties and exposures to toxic fumes. These could be done as inter-professional teams with participation of staff to take part in the learning process.

Institutional disaster preparedness

This area needs to be strengthened and should include a clear line of communication to allay fears and anxieties of staff, identification of teams to meet emergencies, strategies to ensure care of other patients while dealing with the disaster, and capacity to prevent transmission of infection to susceptible and vulnerable patients within the hospital.³ Core teams will need to meet frequently to adapt strategies as the epidemic evolves and we learn from our experiences.

With rapid globalisation, it is only likely that we will have similar experiences in the future. At least a few key institutions should have the capability and capacity to train other groups at short notice. While COVID-19 is certainly a health priority at present, we must be aware of the unwitnessed victims who are receiving suboptimal care due healthcare strategies that focus only on preventing the spread of COVID-19. Healthcare providers need to come together to draw up a plan that will seek to provide the best service we can offer to all patients with 'COVID-19' and patients who are 'non-COVID' and to ensure that faith in the health system is maintained. Hence, there is a need for better collaboration between the preventive and curative sectors of health to ensure that attention is paid to the identification and treatment of patients with chronic diseases as care of these patients was seriously hampered due to diversion of resources towards mitigating the spread of the virus.

Structural changes

The open-dormitory wards, lack of appropriate methods to circulate fresh air, facilities that require patients to share

toilets and kitchen areas are not the best environments during an epidemic that spreads through droplets or aerosols. The WHO has published guidelines on the minimum requirements for infection prevention and control programmes when designing hospitals.⁴ It would be ideal to have separate isolation rooms or wards with attached toilet facilities and negative-pressure ventilation to house these patients. Indeed, we can use this experience to sensitise ourselves to the importance of infection control in general.

Technological advances

Wealthier countries have been able to use strategies such as telehealth services to maintain outpatient health systems during lockdowns.⁵ These included uses of social media, phone calls, email and videoconferencing. As a low-income and middle-income country, many in Sri-Lanka do not have access to smartphones or computers. However, the pandemic led to schooling through television and via social-media groups and working from home via the internet. In time, we may be able to formally apply this strategy to more of our patients.

Currently, our health systems are mainly paper-based. Computerising patient data will allow administrators to keep track of patient numbers, admissions, distribution and discharges. It will also make it easier for us to audit the quality of the services, manage ICU beds and share resources across hospitals during a pandemic.⁶

IMPROVING ACCESS TO QUALITY HEALTH SERVICES

At present, there is an inequality in the distribution of health services, especially at tertiary-care levels across the country. The national-level lockdown left many of these patients stranded without guaranteed access to care. Lack of public transport made it difficult for them to travel to hospitals across district borders, and life-sustaining health facilities such as dialysis became inaccessible. For those who did travel, there were concerns about acquiring or spreading the infection, which often lead to unnecessary delays in treatment. Patients would be admitted to our hospital from 50 to 100 km away, followed by a 24–48 hour wait for a negative COVID-19 result, a dialysis and then a repeat of the same prior to the next dialysis. These could have been avoided if a local hospital had been developed to provide the required facilities. Thus, the pandemic has placed the urgency of

developing quality care across the country in a new light.

FOSTERING HUMANE CARE

The COVID-19 crisis has brought out both the best and the worst in us. At the receiving end of this dynamic has been the patient. Even amid limitations in resources, we have the choice to maintain our humanity. Many of the fears which translated into compromised care were partly due to a lack of information about the disease. Continued education and support of healthcare workers are important to ensure that they are aware of true risks, feel safe and are able to provide the best care to patients with empathy and kindness.

CONCLUSIONS

The COVID-19 pandemic has been a learning experience to healthcare systems around the world. It has brought out several weaknesses in our own system that need to be developed further so we can tackle the current pandemic and be better prepared for more such calamities in the future. As this wave recedes, we must avoid the trap of complacency and maintain our focus on improving the structure and delivery of health services so that we will be able to provide quality healthcare to our patients come what may.

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