

Struggle Against Pandemic in A Private Hospital: What We Have Learnt from Pandemic?

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Abstract

Corona Virus disease 2019 (COVID-19), which is one of the biggest outbreaks in the last century and is caused by a kind of coronavirus, spread to many countries in a short time after being first seen in the Wuhan region of China in December 2019. The COVID-19 outbreak, which spread rapidly and caused many deaths, was declared as a pandemic by the World Health Organization on March 11, 2020. The first COVID-19 case in Turkey, coincidentally, was seen on the same day. In this article, the story of the pandemic struggle successfully carried out in a private hospital and the teachings of the process are provided.

KEYWORDS: Pandemic, SARS-COV-2, COVID-19, coronavirus

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INTRODUCTION

When we heard the news in mid-December that a strange viral disease had spread among people and led to deaths in China's Wuhan region, we never thought that the job could get this big and become a threat to the whole world and that we would try to adapt to a new life with the virus [1]. When the outbreak began to spread in countries close to us, we began to think why there were still no cases in Turkey, while our anxiety increased. In fact, rumors were beginning to spread that we were genetically immune to the virus. Then it did not take long, and our first new corona virus case, currently called severe acute respiratory syndrome coronavirus 2 or corona virus disease 2019 (COVID-19), was officially announced on March 11, 2020 [2]. Although the report did not give details related to the patient, the city where he was located, etc., the virus had now come to Turkey.

The images that we saw in the media until the virus arrived were so horrific that it naturally caused serious concern among health workers [3]. In the footage that we had watched and the news that we had read, there was enough reason to make us uneasy about the news. The number of patients admitted to the hospitals was high according to the images we saw on television or social media. Patients were receiving treatment on stretchers and chairs that were overflowing in the hallways or even outside the hospital. Intensive care was flooded with intubated patients, and young patients were now being prioritized for intubation. Health workers, on the other hand, said that they did not have enough protective equipment and were too scared to carry the virus home if the disease infected them, and that is why they could not go home and started setting up in the hospital. It was only a matter of time before we encountered the virus, which was said to be very contagious and lethal. We had to move quickly on the measures and plans that were to be undertaken by our hospital, but it was also important that we remained calm and not panic. The hospital we work in is a private hospital with 100 single beds. We also have a third-level intensive care unit with 10 beds all in separate rooms. Among others, our hospital was shortly declared a pandemic hospital by the Ministry of Health. In this article, we aimed to summarize the pandemic struggle in a private hospital and what we have learned from this pandemic.

Establishment of COVID-19 Organizing Committee

About 1 week before the first case was seen in Turkey, we had a meeting in our hospital headed by the chief physician. By expanding this meeting a little further, we established an organizing committee with the relevant branch physicians (internal medicine specialist; infectious diseases specialist, including chest disease specialist), hospital director, and head of nursing services. There we started to take our initial decisions.

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Determination of Physicians and Working Order

There was an uncertain and challenging process in front of us. Therefore, we had to use our staff of physicians, nurses, and auxiliary medical staff effectively and economically. We had a three-step working plan, thinking we would need every employee in this process, and we did not know how long it was going to take. We identified the staff of physicians who would take priority roles in the first stage. Naturally, this team involved infectious diseases specialist, chest diseases specialist, internal medicine specialist, gastroenterologist, physicians working in intensive care unit, otolaryngology department physicians, emergency physicians, and general practitioners assigned as floor physicians. In case things got worse and someone on this team got sick or got too tired, all other physicians working in our hospital were divided into two groups and identified as a backup team. These decisions taken by our hospital's COVID commission were shared with all other physician friends. Naturally, it caused uneasiness, but none of our physician friends objected to this decision. To learn how to function, physicians in these groups took turns calling for commission meetings and having the chance to monitor and learn about what is done with subject samples such as throat and nasal swabs for real time polymerase chain reaction (RT-PCR) tests, about treatment protocols, and about patient follow-ups.

Precautions for Infection Prevention

At our first commission meeting, we made some decisions in accordance with the information about the spread and transmission mechanisms. This included the information that the virus was transmitted through close contact with the person in the form of droplets. First, we started giving surgical masks to everyone who entered the hospital. We reiterated and persistently warned that all of our employees should wear the surgical mask all the time as long as they were in the hospital and that they should maintain distances with each other. After a while, we found that this attitude began to be applied automatically among all employees. At the time, all television channels and authorities were given warnings by the relevant experts and authorities that only patients should wear masks, and those who are not sick should not wear masks. On the other hand, there were assumptions that even people who had no symptoms could spread the virus. We could not take any chances. Therefore, we had to make sure that everyone wears masks, regardless of who entered the hospital from day one, based on the assumption that we could not identify who was sick only by fever and interrogation. Where we are today, we can see that we had made the right decision because none of our employees were ever detected with COVID-19 infections except a physician and an auxiliary staff member

in our hospital who were on leave during the outbreak and probably got exposed to the virus outside the hospital.

Hand washing and contact measures within the scope of hand-washing trainings were shared with all employees. In the hospital, it was ensured that hand sanitizers were available in all areas where the treatment required contact with the patient. The dining hall and cafeteria seating arrangements were rearranged to maintain distance.

Protective equipment for all healthcare workers and auxiliary workers who needed to enter patient rooms had been quickly made available. Special protective equipment such as N95, FFP2, or FFP3 masks; aprons; and visors were distributed and training was given on how to use them. It is predicted that the material we have will run out in a short time, and materials similar to the fabric aprons and masks we used in the operating rooms in the past have been sewn.

Although these trainings were carried out and personal protective equipment was kept ready, giving a great confidence to the team that would work in the foreground, not knowing what to expect was still creating nervousness in the team.

Termination of Elective Procedures

As per the decision taken by the COVID commission, all elective outpatient and surgical procedures (except those previously dated) have been gradually reduced because of the study that every patient who came to our hospital might be infected, and it was not always possible to detect it. Procedures such as respiratory function tests and sleep polysomnography were postponed owing to the risk of transmission. Our operating rooms have been reorganized to intervene in emergencies. Workload of physicians engaged in patient monitoring at the forefront in non-COVID outpatient clinics has been reduced and converted into more phone or video calls.

COVID-19 Triage Planning

Our hospital entrances were divided into two. We started to measure the temperature of everyone who entered and questioned them about their contact and respiratory symptoms history by setting up a nurse's desk at the main entrance, which we called the clean entrance. Here, the patients and their relatives who were thought to be suspects in terms of COVID-19 were referred to the emergency department from outside the hospital by giving a surgical mask. All examination processes of these patients were carried out in the emergency room. All patients who made appointments to be examined at our hospital were called by phone a day before and questioned for the history of symptoms and contact history in terms of COVID-19. The patients who were thought to be suspicious for COVID-19 were informed that their examinations would be carried out in a special area reserved in the emergency room by the physician they have made appointments with, and the patients were instructed to come without a companion but wearing a mask. After applying to the emergency room, the patients were quickly taken to single rooms where they were first seen by the emergency physician who contacted the relevant branch physician to plan the next process together. During these examinations, for all patients who were found suspicious in terms of COVID-19, hemogram, C-reactive protein, and X-ray and/or low dose computerized

MAIN POINTS

- Taking action and getting prepared early for the pandemic provided many advantages.
- Team work and collaboration between all the units in the hospital such as physicians, pharmacists, nurses, hospital administration etc are the most important steps in this fight.
- To have a Pandemic board and Multidisciplinary approach provided trust, safety and success in the medical care of Covid-19 cases.

tomography of the lungs were performed, and samples of nasopharyngeal swabs were taken for RT-PCR.

Taking Samples of Nasopharyngeal Swabs for COVID-19 Polymerase Chain Reaction Test

It was intended to standardize sample recruitment by training a team to take samples. They were trained in all aspects required for the best performance of sampling. All equipment for the maximum level of protection of the team for the sample processing, which is one of the processes at the highest risk of transmission, was quickly provided, and the team was not allowed to collect samples unprotected. Separate teams have been set up for patients who apply both during night and day shifts.

Organization of COVID Wards

Three wards, each consisting of 15 rooms with single beds, were identified primarily as COVID wards. These services began to be opened in a row according to the number of patients admitted. We quickly identified the health and auxiliary staff to work on these services and completed the shortcomings if any. As the applications of patients who were clinically more severe increased, the necessary arrangements were made to determine one of the services for such patients and to ensure that they were monitored and followed closely by a more experienced house staff. Three high-flow oxygen systems and three noninvasive mechanical ventilators were supplied for use when necessary, and medical personnel were trained on how to use them.

Creation of Treatment Council

COVID council, which we initially formed to ensure joint decision-making in the diagnosis, treatment, and discharge stages of all patients starting with the first ones, to prioritize the multidisciplinary approach, had been converted into a treatment council with the participation of all other physicians who take care of these patients. All patients were monitored daily, and their treatment was decided together by the treatment council. The treatment council gathered together every morning at 10:00 am in the meeting room that was reorganized with a distant seating setting and all participants were required to wear surgical masks in these meetings. When necessary, rheumatology, nephrology, and hematology specialists were consulted. During these meetings, the literature information we read was shared verbally and kept the team's information about COVID-19 disease up to date. Looking back today, we see that this multidisciplinary approach benefits in many ways. First, while battling an unknown and frightening disease, it has given the team great strength and confidence to follow all patients together. Our error rate has been minimized. We also had the chance to recognize the disease quickly with all its aspects. We have transferred these experiences to our colleagues in the provinces that have not yet encountered the virus.

Creation of Patient Follow-up and Treatment Protocols

Having a treatment council made it easier for us to establish our own treatment protocols. Based on the treatment protocols proposed and constantly updated by the national science council, we have created a stepwise treatment protocol that we apply according to the clinical severity of the patients. In

addition to the drug treatments recommended in the national science council protocols, we used high doses of vitamin C (7.5 gr twice a day, intravenous) and N-acetyl cysteine (600 mg, three times a day, oral) in some of our patients. We used doxycycline (100 mg, twice a day, oral) instead of azithromycin, especially in those with prolonged QTc in electrocardiogram because doxycycline has been reported to cause interleukin-6 inhibition and does not cause cardiac side effects [4].

The team is trained for prone positioning of the patients. Prone positioning was applied to the patients with respiratory insufficiency as long as they could tolerate. In some of the patients who could tolerate a prone position, further treatment with high-flow nasal oxygen and/or noninvasive mechanical ventilation were not needed. We observed that in the patients who could tolerate a prone position, SpO₂ increased between 2% and 6%, and patients felt much better when they slept in this way.

The fact that all patient rooms in our hospital are single, made it easier for us to use treatments such as high-flow nasal oxygen or nebulization with a minimum risk of transmission. As all personnel entering the patient's rooms are required to enter using full protective equipment, no contamination has occurred.

In one of the cases, noninvasive ventilation was applied in the service. This patient was lying in the negative pressure service room. At the same time, dialysis procedures of the patient, who also had chronic renal failure, were performed in the room.

CONCLUSION

As of early May, approximately 200 COVID-19 cases were hospitalized and followed in our hospital. Only six of our patients were followed in the intensive care unit; while four were intubated, two of them were followed only by noninvasive mechanical ventilation and/or high-flow nasal oxygen. By the time this manuscript was written, we had 24 patients with COVID-19 left in the hospital. Until now, we lost only one patient with multiple organ failure and discharged all our other patients who became healthy.

Our results show that we have successfully passed this very difficult test against one of the biggest outbreaks of the last century that has affected the whole world. In this success, we found that being able to organize quickly, hospital management and team harmony (something that we ensure among all employees), multidisciplinary approach, and the work of the whole team with great dedication, regardless of any financial interest, play a very important role. On the one hand, our patients had to be followed very closely, on the other hand, there was a risk of disease transmission. However, in a short period of time, our colleagues of nurses and auxiliary medical staff adapted to this intensive work pace and played a very important role in our success by working with great dedication and without complains. While the physicians on the team worked at a very busy pace during the day, they often spent the night reading literature and sleep-free. The literature they read was shared among themselves through social media groups where they set up all the data that they thought were important.

Witnessing the improvement of our patients who were in a serious condition during the daily treatment council meetings has increased our confidence in ourselves as a team. The entire team learned a lot from each other and our patients by multidisciplinary patient follow-up. Every patient and patient's relatives who came to our hospital naturally came with great concerns. We have observed that informing both our patients and their relatives daily has a great impact on decreasing their concern, and that is why we have meticulously fulfilled these tasks, which we see as very important in the treatment process, no matter how busy we are.

In this pandemic process that we experienced for the first time, the entire team worked with great dedication at the expense of the entire team, from the top health workers to the security guards, and a team spirit that had never been seen before was created. Because of the organizations and planning carried out in a short period of time, none of the staff of our hospital were infected and all but one of the patients with COVID-19 followed in our hospital recovered.

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