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Positive Perspectives of the Predicament of COVID-19

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Although crises such as pandemic can inflict cascading disasters on a health care system, they can provide opportunities for the emergence of new types of potential and their optimal use and manifesting the best kinds of altruism and philanthropy. The COVID-19 crisis will undoubtedly entail great costs that are both economically and emotionally irretrievable; nevertheless, the present study seeks to highlight the new opportunities that are provided during this disaster and the optimal utilization of all capacities to alleviate this seemingly-terrible condition. This paper presents a brief report of the first weeks of the COVID-19 crisis in Imam Khomeini Hospital Complex (IKHC) affiliated to Tehran University of Medical Sciences as the largest hospital in Iran with approximately 1200 active beds. In addition to lots of problems during the battle for maintaining the treatment quality in this crisis, a strategy was devised to mitigate the challenges. The positive perspectives during the fight with the predicament of COVID-19 in this hospital are detailed in the following nine domains.

Collaborative leadership

From the first days of the virus emergence, Chief Executive Officer (CEO) and practitioners involved in the crisis and nurses attended regular daily meetings held by the IKHC deputy of clinical affairs to discuss strategic planning. The roles determined in these meetings included therapeutic responsibilities, educational duties, infection control, development of infection-associated hospital protocols, research activities, psychologically supporting the treatment staff and making management and executive decisions. “Collaborative leadership” in these meetings was the key to successfully delivering best medical care. Optimally using the intellectual potential, strengthening interdisciplinary communication and accompanying and informing all the involved parties were considered of great value in this organization [(1)]. Daily reporting the events and developments in the general virtual group of the hospital by the deputy of clinical affairs provided a more peaceful and cooperative atmosphere. The front line care providers also played a key role in the general collaboration. Given that many health workers resigned amid the crisis in other provinces in Iran, chief residents and representatives of nurses were invited to most of the hospital management meetings and got involved in decision makings to improve their understanding, cooperation and alliance. Furthermore, solutions were already found to tackle problems that had been often foreseen; for instance, high demand for ICU beds was estimated from the first days and different ICUs were converted to a designated COVID unit. Some wards equipped with new ventilators provided by charities were also reserved for possible needs in the following days. An opportunity was therefore provided to witness a great deal of collaborative decision-making during this crisis despite its difficulties.

Prompt modifications in the model of providing medical services

Providing effective medical care amid the crisis required the corresponding modifications in the infrastructures, including establishing a respiratory emergency department during the crisis given the high transmission rate of COVID-19 to separate the patients from other ones and developing a new respiratory triage system [(2)]. A model of patient service was therefore designed to suit the crisis condition. In first days, a huge population of patients presented in two groups; one including real Covid-19 patients and the other stressful outpatients who were only worried about their health and were not actually infected. The latter type of presentation rapidly, however, decreased in the first few days. Delivering quality

care to such a high number of clients was really a challenge, which was met by quickly changing the service provision process based on the crisis and taking major steps such as separating respiratory emergency departments from general emergency departments to reduce exposure. Service delivery to the Covid-19 patients required the efficient collaboration of all the units in the organizational structure and agile reactions to changes. A method was therefore proposed by combining agile coaching with collaborative leadership. These agile reactions included promptly establishing a new respiratory triage system. Two respiratory emergency lines defined according to the triage protocol included one for admitting critical patients without delay under the supervision of an emergency medicine specialist and an infectious disease specialist [3]. The other line assigned to COVID-19 outpatients involved all the specialists, including an infectious disease specialist, an internist and an emergency medicine specialist, who were permanently presents, as well as other specialists. The doctors worked six-hour shifts to prevent their burnout. Despite all the problems, these immediate changes in the infrastructure were undoubtedly effective as a practical and educational experience of teamwork and communication.

Rapid reaction team

This team was formed for patients needing admission to the ward or the ICU depending on their clinical symptoms and vital signs. The different medical specialists involved in visiting these patients predicted a need for a counseling and support team of professionals. The "rapid reaction team" organized therefore consisted of an internist, an infectious disease specialist, a pulmonologist, an intensivist and a cardiologist, who were permanently accessible. This inter-specialty cooperation was a rewarding experience amid the crisis.

Follow-up electronic clinic

Thanks to the high penetration of the Internet and smartphones, an electronic follow-up system was developed during the COVID-19 outbreak. In addition to responding to the COVID-19 patients, the continuity of essential health services and routine patient care was important [4]. The patients could also use this system for consultations with the specialists. During the crisis, the lower the number of patients presenting, the lower the pressure on the treatment team, which was accomplished by launching the virtual system. This crisis precipitated the realization of the authors' old goal, i.e. the establishment of an electronic clinic.

Educational webinars

Multiple webinars were held by the faculties to broaden the knowledge of the medical team about the disease and its management and treatment. The hospital's morning reports, grand rounds and educational classes in different departments took a virtual form. A great opportunity was therefore provided to learn virtual training skills and develop the virtual education culture.

Psychological support measures

The psychiatry team played a key role in providing the patients and medical team with psychological support and boosting their morale [5]. New relationships were established between the psychologists and other staff and faculties for better psychological support in future problems.

Research activities

Data collection and research activities were assigned to the research department of the hospital. The university provided specific grants for studies on COVID-19. Ethical issues have been highlighted in literature while mainly seeking to broaden knowledge about this new disease and ultimately help the patients. Assigning many young researchers different research projects provided them with an opportunity to expand their knowledge about the disease and get involved in the field of research.

Support services

Cooperation for delivering support services was valuable in terms of both relocating the respiratory emergency department and providing essential support services such as cleaning, dietary services and waste management. The role of the support staff in resolving the crisis improved their job satisfaction and sense of participation.

Charities and volunteers

The vital role of the staff and charities as volunteers in promoting the spiritual and financial strength of the care providers cannot be ignored [6]. Numerous volunteers in the community helped solve the problem, though partly, by stepping up efforts to prepare protective gowns and shields and therefore assist the health care providers. Moreover, reliable resources voluntarily provided by the community played a key role in supporting

the patients with no accompaniments during their hospitalization. Charities regularly provided the front line caregivers with gifts and facilities such as food and books, which boosted the treatment team's morale despite their insignificant monetary value. Moreover, financial support by multiple charity organizations enabled the hospital to equip and develop the ICUs in the first weeks of the crisis by purchasing dozens of mechanical ventilators. The commendable and noticeable sense of philanthropy, cooperation and empathy provided by charities and volunteers spiritually strengthened the front-line healthcare workers. Overall, volunteers and charitable forces significantly affected revitalization in the health care providers.

To recapitulate, the rewarding experiences amid this potentially-crippling conundrum included the unique emergence of collaborative leadership, effective interdisciplinary communication, appropriate agile reactions, an electronic clinic establishment, virtual training development and exemplary support by volunteered forces and charities. Despite all the positive aforementioned aspects, mistakes were inevitably made during these challenging processes; nevertheless, being sensitive to the decisions consequences, great efforts were made to daily modify the solutions according to the outcomes observed. Fifty days after the disease outbreak that led to the presentation of myriads of outpatients and inpatients, taking these measures resulted in the availability of empty beds in the wards and ICUs and preparedness for admitting more patients. In many cases, the satisfaction of the patients and medical team with the hospital status was also higher than their satisfaction in normal days and before the crisis.

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References
1. Collins-Nakai R. Leadership in medicine. Mcgill J Med. 2006;9(1):68-73
2. Ghebreyesus TA. How could health care be anything other than high quality? Lancet Glob Health. 2018;6(11):e1140-1.
3. Zhang J, Zhou L, Yang Y, Peng W, Wang W, Chen X. Therapeutic and triage strategies for 2019 novel coronavirus disease in fever clinics. Lancet Respir Med. 2020;8(3):e11-2.
4. World Health Organization. Hospital Readiness Checklist for COVID-19. February 24, 2020. [Available from: http://www.euro.who.int/__data/assets/pdf_file/0010/430210/Hospital-Readiness-Checklist.pdf?ua=1].
5. Ko CH, Yen CF, Yen JY, Yang MJ. Psychosocial impact among the public of the severe acute respiratory syndrome epidemic in Taiwan. Psychiatry Clin Neurosci. 2006;60(4):397-403
6. Hodge JG, Calves SH, Gable L, Meltzer E, Kraner S. Risk Management in the Wake of Hurricanes and Other Disasters: Hospital Civil Liability Arising from the Use of Volunteer Health Professional during Emergencies. J Med Law. 2006;10:57-86.