

Increased Demand of Emergency Medical Services in Covid-19

Vaibhav Vikas Bisne

Medical Intern, Jawaharlal Nehru Medical College, Datta Meghe Institute of Medical Sciences, Sawangi (Meghe), Wardha, Maharashtra, India

Abstract

The World is going through a tough situation and that is a pandemic caused by the Novel Corona virus which originated in the Wuhan Province of China in December 2019. During this tough and critical situation, the only saviors of humanity are our health care professionals, who restore the faith and trust in humanity and ensure the safety of each individual suffering from this COVID-19 disease. The cherry on the cake is the additional health support provided by the staff of Emergency Medical Services who help the health care workers in treating the patients in hospital, by giving the pre-requisite or the initial treatment during this emergency situation. So to tackle this pandemic, it is important to meet up to the increasing demand of Emergency Medical Services so that the situation remains under control and there is a decrease in mortality. The fragile and fragmented healthcare system of India needs to be upgraded and emphasis needs to be put on developing the Emergency Medical Services so as to strengthen the healthcare system as a whole and to make living better.

Keywords: fragile, proactive protocol, episodic care, emergency medical services, increased demand

Introduction

No one can deny the fact that the world has changed dramatically in just a matter of few months due to spread of Novel Corona Virus, COVID-19. This COVID-19 is a member of SARS family CoV- 2 Virus and was identified in Wuhan, China in December 2019 and has rapidly spread across the world. India being the second most populous country after China, the presence of this virus in a patient was first detected on 30 January 2020 in Kerala. Being an agronomical (agricultural-based economy) country, the majority of population stays in rural areas and access to health care facilities is difficult. To restrict the spread of the virus in India, a series of lockdown were instituted and as on 8 July 2020 there are 7,46,506 cases and India is ranked 3rd in the world as far as the number of cases are concerned. As the number suggests a diffuse spread of this disease in India, Maharashtra and Tamil Nadu are amongst the worst affected states with both of them nearly contributing around 50% of total cases.

India's healthcare system is fragile and fragmented. Considering this type of healthcare system during the pandemic caused by Corona Virus, there is immense requirement if Emergency Services at utmost priority.

Emergency Departments are medical treatment facilities which cater to provide episodic care to patients suffering from acute injuries and illness as well as patients who are experiencing sporadic flare ups of underlying chronic medical conditions which require immediate attention. Hence to tackle this pandemic, there is increased demand of Emergency Services and it also highlights the importance of Emergency Medical Services, its education training in a developing country like India.

Reviews

Public health emergencies like pandemic put enormous burden on healthcare systems while revealing deep structural and functional problems in organization care. These difficult times require ones healthcare system to press on acceleration lever and to increase the efficiency of emergency healthcare services and at the same time taking utmost precautions so as to prevent the spread while giving the treatment. ⁽¹⁾

One to this pandemic, there has been an increased need of re-organizing our healthcare system. There has been a complete saturation of healthcare capacities and service. Emergency Medical Services play an important role during this pandemic. ⁽²⁾

There has been a consistent rise in number of cases day-by-day. This COVID-19 being an infectious disease, known to be spread by aerosol transmission and affecting mainly the respiratory system of humans, has caused many mortalities especially affecting the older age groups. The increased mortality in older age groups (more than 60 years) is also due to other related comorbidities like Diabetes Mellitus, Hypertension, Bronchial Asthma, Tuberculosis, Immunocompromised patients, cancer patients. ⁽³⁾ Considering these group of patients with underlying comorbidities, most of them are bound to arrive in casualties requiring medical attention at priority in the form of Emergency Medical Services. Emergency Medical Services take into consideration all cases related to any system or organ involved in human body. ⁽⁴⁾

During this pandemic caused by COVID-19, the healthcare professionals posted in Emergency Medical Services Department need to wear PPE (Personal Protective Equipment) for their protection. ⁽⁵⁾ A COVID-19 positive patient with underlying comorbidities may present with attack of asthma, respiratory distress, attack of stroke, Myocardial Ischemia or heart attack, and in such cases immediate medical attention is required. Due to these underlying comorbidities, there have been rise in deaths in India, so somewhere in order to save lives, there is the need of Emergency Medical Services during COVID-19. ⁽⁶⁾

To save the lives of these patients EMS professionals have to follow a proactive protocol, just like that followed in a natural disaster "Triage". ⁽⁷⁾ There needs to be increase in the amount of medical equipment required in healthcare facilities. Proper PPE (Personal Protective Equipment), ventilators, emergency drugs, ambulances need to be made available and hence their production needs to be increased. ⁽⁸⁾ These Emergency Medical Services provide urgent pre-hospital treatment and stabilization for severe illness and injuries. It plays an important role in saving life of patients as they carry the patient to healthcare facility and treat them during the transportation time. ⁽⁹⁾

So as to enhance the effectiveness of the Emergency Medical Services in India during this pandemic, a proper hotline number should be created so that people have easy access to these Emergency Medical Services as

soon as possible. ⁽¹⁰⁾ As the spread of COVID-19 is rising exponentially, there should be deployment of ambulances in these zones where there is increase in number of cases, so that during any emergency to a patient, there is easy access to Emergency Medical Services and patient reaches the nearest healthcare facility as soon as possible. As there is increased demand during this pandemic, there should be increased emphasis in training of health professionals in field of Emergency Medical Services. ⁽¹¹⁾ Basic courses like first aid training, Advanced Cardiac Life Support, Basic Life Support, suturing, catheterization should be instituted and made sure health professionals are qualified enough to provide these to patients during emergency. Availability of air-ambulance wherever necessary and required. ⁽¹²⁾

As major population of India lives in rural areas, establishment of Emergency Medical Services during COVID-19 pandemic is of utmost importance. ⁽¹³⁾ Posting of health professionals in rural Primary Health Centre along with availability and access to Telemedicine care will help provide Emergency Healthcare Services to the poor people living in remote areas and help save their life and decrease mortality rate. ⁽¹⁴⁾ To make use of the potential of the youth population (especially in the rural areas) and training them to provide basic emergency services during this pandemic will provide aid in decreasing the burden on healthcare professionals. ⁽¹⁵⁾ Timely healthcare provided in Emergency Medical Services during this pandemic will help save life of many people and hence justify the statement "Doctors are equal to God" and will help to bring back the faith and trust of people on Doctors. ⁽¹⁶⁾

During this pandemic of COVID-19 a major role has been played by Emergency Medical Services efficiently so as to reduce the mortality rate in our country. But as there has been an increased demand of Emergency Medical Services the call volume has explicitly increased on the emergency medical number, thereby leading to unavailability of Emergency Medical Services in remote locations. Hence, a separate Coronavirus Helpline Number should be created so as to streamline the process and help in timely availability of Emergency Medical Services in such localities. ⁽¹⁷⁾

Accessibility and availability of Emergency Medical Services through the use of technology i.e. Tele-Health⁽¹⁸⁾

for places which are remote and difficult to access. It can be a useful and an efficient option. This portal of technology will help in providing immediate care to patients without the need for any medical professional to go and visit personally. A team of Emergency Medical Services should be made which will cater to needs of people through Tele-Health. ⁽¹⁹⁾

Emergency Medical Services play a major role in trauma and Department of Orthopedics, ⁽²⁰⁾ and during this pandemic there are incidents occurring that have caused disruption and affected the efficiency of Emergency Medical Services. This pandemic is similar to disaster and hence to bring out the maximal ⁽²¹⁾ output of our Emergency Medical Services is of utmost importance. It is a challenging task to provide adequate Healthcare during this pandemic so there is a need to expand on our Emergency Medical Services so as to make things easier. This Coronavirus outbreak has led us to utilize our resources of medical importance and cater to need of patients and even the Healthcare Professionals. It has led to paying heed to strategizing the need to provide urgent medical healthcare through our Emergency Medical Services. ⁽²²⁾

So as to provide Emergency Medical Services efficiently, the staff working needs to have access to proper N95 respirators, Personal Protective Equipment (PPEs) ⁽²³⁾, sanitation practices, and other established safety protocols during COVID-19. Early identification ⁽²⁴⁾ of cases in Emergency Department, which present with symptoms similar to COVID-19, can help restrict the spread of this disease and hence Emergency Medical Services Healthcare Professionals play an important role in this situation of the Coronavirus pandemic across the globe. ⁽²⁵⁾

Discussion

Emergency Medical Services are an integral and important part of health care system and hence are needed during this pandemic. SARS (Severe acute respiratory syndrome)- Corona virus-2, causes COVID-19 disease, is highly contagious and is the causative agent behind this pandemic. ⁽²⁶⁾

To bring about the effective output of Emergency Medical Services during this pandemic, the fragile and fragmented healthcare system of India needs to form

a bridge so as to connect all the aspects of healthcare and to ensure the increased demand. Financial support should be provided by The Government which would be of immense help to meet the rising demand of Emergency Medical Services during this pandemic. ⁽²⁷⁾ The constituents of healthcare which includes Doctors, nurses, Emergency Medical Services staff, ward boys, ambulance drivers and pharmaceutical professionals need to come along together to execute a proactive plan so as to bring about maximum and effective output and help save lives of patients. ⁽²⁸⁾

Pharmaceutical professionals have important and significant role to play in Emergency Medical Services. Timely availability of emergency medications to the Emergency Medical Services provider staff will help save lives of the patients who are having underlying comorbidities and are also suffering from Corona virus infection. The onus of clinical decision making is less in hands of pharmaceutical professionals in India, so this responsibility of decision making needs to be given to professionals to some extent, so as to bring about rapid response in case of emergencies. ⁽²⁹⁾

Due to this pandemic, there has been an undue pressure on healthcare system of our country and hence so as to release the pressure on the health care system, it is time we require efficient tools for smart governance and resource allocation. To cater this need, we need to stabilize and improve the Emergency Medical Services so that the life of patients is saved. The increased demand of Emergency Medical Services along with their timely action would help to ease out the pressure and decrease the burden on healthcare facility and prevent it's saturation. ⁽³⁰⁾

Emergency Medical Services usually include fundamental principles of managing airway, emergency tracheal intubation, cardiac arrest, stroke patients, anesthetic care, Basic Life Support training and hence to meet the increased demand during pandemic, we need to increase the efficiency of the working staff so as to bring about a better output. As a safety measure, prevention is better than cure. So basic precautions like hand hygiene ⁽³¹⁾, avoiding undue movement and travel ^(32,33,34) can help a lot to prevent the spread of Covid-19. Also measures need to be taken to reduce depression, anxiety and stress among the general population ⁽³⁵⁾.

Conclusion

During this pandemic, it is of utmost importance to be safe, stay indoors and follow healthy sanitary practices. The improvement in healthcare facilities of our country has led to an additional support in treating these patients suffering from COVID-19. The need of the hour is increased qualitative and quantitative efficacy of Emergency Medical Services so as to meet the increasing demand and also put an emphasis on the development and improvement of Emergency Medical Services so as to help tackle any situation in near future with great ease.

Conflict of Interest: None

Ethical Approval: From IEC, DMIMS, Wardha.

Funding: DMIMS, Wardha

References

- Zhang Q, Pan J, Zhao M-X, Lu Y-Q. Clinical value of the emergency department in screening and diagnosis of COVID-19 in China. *J Zhejiang Univ Sci B*. 2020 May;21(5):388–93.
- Deng W, Qi D, Wang D-X. An emergency strategy for intensive care unit during COVID-19 outbreak in Chongqing, China. *Eur Rev Med Pharmacol Sci*. 2020;24(14):7886–8.
- Pascual Gómez NF, Monge Lobo I, Granero Cremades I, Figuerola Tejerina A, Ramasco Rueda F, von Wernitz Teleki A, et al. [Potential biomarkers predictors of mortality in COVID-19 patients in the Emergency Department]. *Rev Espanola Quimioter Publicacion Of Soc Espanola Quimioter*. 2020 Aug;33(4):267–73.
- Garcia-Castrillo L, Petrino R, Leach R, Dodt C, Behringer W, Khoury A, et al. European Society For Emergency Medicine position paper on emergency medical systems' response to COVID-19. *Eur J Emerg Med Off J Eur Soc Emerg Med*. 2020 Jun;27(3):174–7.
- Levy Y, Frenkel Nir Y, Ironi A, Englard H, Regev-Yochay G, Rahav G, et al. Emergency Department Triage in the Era of COVID-19: The Sheba Medical Center Experience. *Isr Med Assoc J IMAJ*. 2020 Aug;8(22):404–9.
- Zou X, Wu YS, Liu XJ, Huang SL, He JF, Zhao J, et al. [Evaluation of the emergency response strategies and measures on the epidemic of COVID-19 in Shenzhen, China]. *Zhonghua Liu Xing Bing Xue Za Zhi Zhonghua Liuxingbingxue Zazhi*. 2020 Aug 10;41(8):1225–30.
- Jaffe E, Sonkin R, Alpert EA, Magid A, Knobler HY. Flattening the COVID-19 Curve: The Unique Role of Emergency Medical Services in Containing a Global Pandemic. *Isr Med Assoc J IMAJ*. 2020 Aug;8(22):410–6.
- Comelli I, Scioscioli F, Cervellin G. Impact of the COVID-19 epidemic on census, organization and activity of a large urban Emergency Department. *Acta Bio-Medica Atenei Parm*. 2020 May 11;91(2):45–9.
- Hartnett KP, Kite-Powell A, DeVies J, Coletta MA, Boehmer TK, Adjemian J, et al. Impact of the COVID-19 Pandemic on Emergency Department Visits - United States, January 1, 2019-May 30, 2020. *MMWR Morb Mortal Wkly Rep*. 2020 Jun 12;69(23):699–704.
- O'Reilly GM, Mitchell RD, Noonan MP, Hiller R, Mitra B, Brichko L, et al. Informing emergency care for COVID-19 patients: The COVID-19 Emergency Department Quality Improvement Project protocol. *Emerg Med Australas EMA*. 2020;32(3):511–4.
- Cervino G, Oteri G. COVID-19 Pandemic and Telephone Triage before Attending Medical Office: Problem or Opportunity? *Med Kaunas Lith*. 2020 May 20;56(5).
- Giwa AL, Desai A, Duca A. Novel 2019 coronavirus SARS-CoV-2 (COVID-19): an overview for emergency clinicians. *Pediatr Emerg Med Pract*. 2020 May;17(5):1–24.
- Yang BY, Barnard LM, Emert JM, Drucker C, Schwarcz L, Counts CR, et al. Clinical Characteristics of Patients With Coronavirus Disease 2019 (COVID-19) Receiving Emergency Medical Services in King County, Washington. *JAMA Netw Open*. 2020 01;3(7):e2014549.
- Shen Y, Cui Y, Li N, Tian C, Chen M, Zhang Y-W, et al. Emergency Responses to Covid-19 Outbreak: Experiences and Lessons from a General Hospital in Nanjing, China. *Cardiovasc Intervent Radiol*. 2020 Jun;43(6):810–9.
- Randelli PS, Compagnoni R. Management of orthopaedic and traumatology patients during the Coronavirus disease (COVID-19) pandemic

- in northern Italy. *Knee Surg Sports Traumatol Arthrosc Off J ESSKA*. 2020 Jun;28(6):1683–9.
16. Fusi-Schmidhauser T, Preston NJ, Keller N, Gamondi C. Conservative Management of COVID-19 Patients-Emergency Palliative Care in Action. *J Pain Symptom Manage*. 2020 Jul;60(1):e27–30.
 17. Jensen T, Holgersen MG, Jespersen MS, Blomberg SN, Folke F, Lippert F, et al. Strategies to handle increased demand in the COVID-19 crisis: A coronavirus EMS support track and a web-based self-triage system. *Prehosp Emerg Care*. 2020 Sep 1;0(ja):1–16.
 18. Joshi AU, Lewiss RE. Telehealth in the time of COVID-19. *Emerg Med J*. 2020 Aug 4;emermed-2020-209846.
 19. Gok AFK, Eryılmaz M, Ozmen MM, Alimoglu O, Ertekin C, Kurtoglu MH. Recommendations for Trauma and Emergency General Surgery Practice During COVID-19 Pandemic. *Ulus Travma Ve Acil Cerrahi Derg Turk J Trauma Emerg Surg TJTES*. 2020 Apr;26(3):335–42.
 20. Wong JSH, Cheung KMC. Impact of COVID-19 on Orthopaedic and Trauma Service. *J Bone Joint Surg Am*. 2020 Jul 15;102(14):e80.
 21. Kato S, Miyakuni Y, Inoue Y, Yamaguchi Y. Maximizing Health-Care Capacity in Response to COVID-19 Outbreak: Rapid Expansion Through Education by Health Emergency and Disaster Experts. *Disaster Med Public Health Prep*. :1–3.
 22. Modelling resource requirements and physician staffing to provide virtual urgent medical care for residents of long-term care homes: a cross-sectional study [Internet]. [cited 2020 Sep 14]. Available from: <http://cmajopen.ca/content/8/3/E514.long>
 23. Ventura C, Gibson C, Collier GD. Emergency Medical Services resource capacity and competency amid COVID-19 in the United States: preliminary findings from a national survey. *Heliyon*. 2020 May;6(5):e03900.
 24. Wee LE, Fua T, Chua YY, Ho AFW, Sim XYJ, Conceicao EP, et al. Containing COVID-19 in the Emergency Department: The Role of Improved Case Detection and Segregation of Suspect Cases. *Acad Emerg Med*. 2020 May;27(5):379–87.
 25. Maudet L, Sarasin F, Dami F, Carron P-N, Pasquier M. [Emergency Medical Services: COVID-19 crisis]. *Rev Med Suisse*. 2020 Apr 29;16(N° 691-2):810–4.
 26. Krausz M, Westenberg JN, Vigo D, Spence RT, Ramsey D. Emergency Response to COVID-19 in Canada: Platform Development and Implementation for eHealth in Crisis Management. *JMIR Public Health Surveill*. 2020 15;6(2):e18995.
 27. Mehta N, Mazer-Amirshahi M, Alkindi N, Pourmand A. Pharmacotherapy in COVID-19; A narrative review for emergency providers. *Am J Emerg Med*. 2020;38(7):1488–93.
 28. Meghana A, Aparna Y, Chandra SM, Sanjeev S. Emergency preparedness and response (EP&R) by pharmacy professionals in India: Lessons from the COVID-19 pandemic and the way forward. *Res Soc Adm Pharm [Internet]*. 2020 Apr 25 [cited 2020 Jul 10]; Available from: <http://www.sciencedirect.com/science/article/pii/S155174112030437X>
 29. Levitt AF, Ling SM. COVID-19 in the Long-Term Care Setting: The CMS Perspective. *J Am Geriatr Soc*. 2020 May 13;
 30. Cook TM, El-Boghdady K, McGuire B, McNarry AF, Patel A, Higgs A. Consensus guidelines for managing the airway in patients with COVID-19: Guidelines from the Difficult Airway Society, the Association of Anaesthetists the Intensive Care Society, the Faculty of Intensive Care Medicine and the Royal College of Anaesthetists. *Anaesthesia*. 2020;75(6):785–99.
 31. Mathur, P. ‘Hand Hygiene: Back to the Basics of Infection Control’. *The Indian Journal of Medical Research*, 134(5), 2011, pp.611–20. PubMed Central, doi:10.4103/0971-5916.90985.
 32. Toshida, T., and Chaple J. ‘Covid-19 – Rumours and Facts in Media’. *International Journal of Research in Pharmaceutical Sciences*, 11(1), 2020, pp.171–74. pharmascope.org, doi:10.26452/ijrps.v11iSPL1.2344.
 33. Ather B, Mirza TM, Edemekong PF. Airborne Precautions. *StatPearls [Internet]*, StatPearls Publishing 2020 Available from: <https://www.ncbi.nlm.nih.gov/books/NBK531468/>
 34. Shah, P., and Naqvi W. ‘Fighting And Chasing The Rogue Virus-Covid19’. *International Journal of Research in Pharmaceutical Sciences*, 11(1), 2020, pp. 77–80. DOI.org (Crossref), doi:10.26452/ijrps.v11iSPL1.2219
 35. Gaidhane S, Khatib N, Zahiruddin QS, Gaidhane A, Telrandhe S, Godhiwal P. ‘Depression, anxiety

and stress among the general population in the time of COVID-19 lockdown: A cross-sectional study

protocol.' *International Journal of Research in Pharmaceutical Sciences*, 11(1), 2020, pp. 360-364