Ethical Issues Related to Coronavirus Disease

Jaya Wanchoo

The coronavirus disease has emerged as a public health emergency crossing geographical boundaries and overwhelming healthcare systems worldwide. On March 11, 2020, WHO declared COVID-19 as a pandemic. The world was not prepared to deal with a crisis of this magnitude. The health systems were not equipped adequately to provide for their citizens. As the demands exceeded the supply in the health sector, it became evident that ethical planning will be required to overcome this crisis. The earlier goals of putting the patient’s needs as a priority had to be changed drastically. Decisions now had to be made keeping public health concerns and physician safety as the first priority. This was difficult for the physicians as it was not their normal way of working. Some of the other ethical dilemmas faced were optimal resource management in terms of critical care beds, ventilators, medicines, and manpower, end of life issues, scientific research, data sharing and patient confidentiality, protection of healthcare workers, and their psychological needs. The states have a greater responsibility to contain the spread of infection by declaring a lockdown on all social events, educational institutions, travel, and economic activities but ensuring that essential services are not disrupted. The economic crisis caused by the lockdown compounded the problems. In an emergent situation like this, there are no right or wrong decisions, but doctors are bound by the Hippocratic Oath, and every patient is entitled to basic health care. To overcome these ethical issues, every healthcare institution should lay down certain guiding principles to treat COVID-19 patients, keeping in mind the principles of ethics, namely, justice, autonomy, beneficence, non-maleficence, veracity, and trust [1]. This would ensure that there is optimal utilization of limited resources and would maximize the number of lives saved. Ethical decisions should be based on availability and accessibility.
of resources of the individual healthcare systems. Each hospital should form their own ethics team [2] to ensure ethical delivery of health care in an otherwise difficult situation.

Some of the important ethical issues faced are discussed here:

### 15.1 Rights and Duties of Personnel

The rapidity of spread, high virulence of infection, uncertain treatment protocols, constantly changing information, and scarcity of resources have all contributed to panic among healthcare workers. The most important ethical question arising in an infectious disease pandemic is “Can the healthcare workers refuse to treat patients, and if they do, can they be charged by the court of law for negligence of duty?” Legal and ethical issues for healthcare professionals during a pandemic are not clearly defined in most of the countries. The American Medical Association states that “physicians should balance the immediate benefits to an individual with ability to care for patients in future.” The UK General Medical Council advises that “doctors must not refuse to treat patients because their medical condition may put the doctor to risk.” It also lays emphasis on protecting oneself while serving the patients. The Code of Medical Ethics Regulations of the Medical Council of India, 2002 (amended up to 2016), states that “no physician can refuse to treat a patient during an emergency” [3]. The Canadian Medical Association Code of Ethics states that “a physician not only has the responsibility to consider the well-being of the patient but also to maintain their own health.” The question then arises—does pandemic pose to be a work place hazard? For a physician the COVID pandemic is an occupational hazard and, like hazards faced by professionals in other fields, should be acceptable; what is unacceptable is when the safety devices are not available or non-functional, in this case proper personal protective equipment [4].

Across the world, healthcare workers are expected to fulfill their duties despite their fears and uncertainties. They are under a lot of stress due to the fact that the disease is highly virulent, with no known or promising treatment options. The greatest fear in their mind is the risk of getting infected and spreading the infection to their family members, especially if they are staying with old parents and children. Another fear is whether they or their family will have access to good medical facilities if they need it. The thought of quarantine and isolation also has serious repercussions [5].

The health services or hospital also has an obligation toward their staff. To allay the fears in the minds of the healthcare workers, the management can take the following steps:

(a) Every healthcare facility dealing with COVID patients should have an ethics committee to formulate their policies and standard operating procedures. The same should be communicated to the frontline workers at regular intervals so that everyone works as a team. There should be good team leaders to motivate the staff members.
(b) There has been an increase in the incidence of mental health issues among healthcare workers like anxiety, depression, and sleep disorders due to overload of work [6]. Social distancing and isolation may add to these woes. To alleviate their stress, hospitals should have regular counselling sessions for their staff. Communication channels should be open for discussing the problems and fears the workers face. Use of other communication options should be encouraged like video chats.

(c) They should be given benefits like adequate remuneration, reduced duty hours, accommodation, and quarantine facilities. Ethical principle of reciprocity, giving priority to those who risk their lives, should be emphasized upon and guaranteed to the healthcare workers. They should be assured of personal protective equipment, medicines, and health care for themselves and their families if the need arises.

(d) Shortage of staff due to quarantine or sickness can cause additional burden on the already overburdened staff. Every effort must be made to deal with it. Some of the methods could be increasing the scope and reach of telemedicine services, deployment of staff from other areas where elective work has been stopped, and recruitment of trainees or retired staff.

Are the other hospital staff like management staff, laundry workers, cleaners, catering staff, and porters bound ethically and legally to work in a pandemic? Is deployment of workers a solution to this issue? They constitute a sizeable number of workforce in any hospital and face an equal risk of getting infected in the pandemic. The reluctance to work among them arises from the fear of getting infected and unavailability of proper personal protective equipment and access to health care if they fall sick [7]. A pandemic should be considered as an occupational hazard, and the principle of proportionality holds good for non-medical staff too. They should be guided and trained on methods to work in a pandemic. Like the healthcare workers, they should also be provided with adequate protective gear, should follow all infection prevention protocols, and should be assured of medical care if they fall sick.

15.2 Allocation of Scarce Resources

As approximately 5–8% of COVID-19 patients present with severe ARDS like symptoms causing acute respiratory failure, the number of people requiring ICU care increased beyond the surge capacity of hospitals around the world [8]. As the disease spread rapidly affecting a large number of people within a short span of time, there was an acute shortage of hospital beds, ventilators, medicine, and personnel. The moral and ethical dilemma on how to use the scarce resources raises a big question mark. Earlier intensivists were working with an aim to provide critical care for all sick patients. Now their dilemma was to provide beneficial care to those who need it the most but in an honest and transparent way. The allocation has to be based on individual resources and preferences of each hospital. Triage protocols and
criteria need to be established in all hospitals by a separate team which can be fol-
lowed by the doctors to relieve them of moral distress.

A white paper proposed by the University of Massachusetts Medical School on
ethical guidelines for the treatment of patients with coronavirus disease lays down
principles and values to be followed, some of which are “utilitarianism, justice,
autonomy, human dignity, transparency, equity, reasonableness, privacy, propor-
tionality and trust” [9]. Hick et al. apply proportionality to the current crisis in a
recent report from the National Academy of Medicine, explaining that the principle
daughts that “the risks of compromising standards in a given instance should be
weighed against the need to do so to optimize benefits to patients, caregivers, and
the community” [10]. Another meaningful document is given by the Department of
Critical Care Medicine, University of Pittsburgh, “Allocation of Scarce Critical
Care Resources During a Public Health Emergency Executive Summary,” which
lays down guidelines for triaging scarce resources in the event of a pandemic.
Admission and prioritization criteria to ICU changed during this pandemic. By defi-
nition the utilitarian approach seems to be best suited in these times—the action is
judged based on its outcomes and net benefit, in other words patients’ chances of
survival to hospital discharge. The goal should be to maximize benefit: to save most
lives and save most life years [11, 12]. Another principle to be followed for ethical
distribution of resources is equity—all patients, regardless of age, sex, gender, eth-
nicity, or religion should have equal access to medical care. The fundamental argu-
ment against this principle is the concept of life years. According to some, priority
should be given to younger patients only to give them a chance to live through life
stages. The “first-come, first-served” criteria may not be possible to follow in these
exceptional circumstances of extreme shortage of resources [13].

A separate allocation should be based on medical criteria, objectively assessed
by the SOFA score [14], and patients must be triaged depending upon their needs.
Priority should be given to doctors, nurses, respiratory physicians, and maintenance
staff if the need arises. Priority should also be given to patients who require critical
care beds for non-COVID reasons like congestive heart failure or ARDS due to
other reasons [15]. The requirement of critical care beds led to the creation of new
ICU facilities, either in the same hospital or at distant locations. Examples of these
could be post-operative recovery rooms as elective surgeries are not being carried
out or conversion of some hospitals into COVID centers. Ethical issues faced in
these new setups included inexperienced workforce or insufficient and inadequate
resources.

Once a patient is allotted a critical care bed, reassessment and reallocation [16]
plays a very important role in a pandemic for reverse triaging. Reverse triage is a
way to create surge capacity and involves discharging patient from critical care units
if they are not going to be benefitted. This is done after giving a therapeutic trial to
the patient, the duration of which is determined by the disease characteristics. If
there is rapid decline in the patient’s condition, worsening SOFA scores, and
presence of severe comorbid illnesses, the family should be counselled accordingly. If a patient is not improving with the treatment, he can be shifted to palliative care, and ICU bed can be used for another patient who may benefit. In other words, patients likely to survive are prioritized. A big ethical question arises on the doctor’s liability for professional negligence in case the treatment is withdrawn. According to the British Medical Association guidelines, “if there is radically reduced capacity to meet all serious health needs, it is both lawful and ethical for a doctor, following appropriate prioritisation policies, to refuse someone potentially life-saving treatment where someone else has a higher priority for the available treatment” [17]. Having said all this, we cannot have rigid exclusion criteria for access to health care as it is against medical ethics.

Screening and testing of patients are an ethical dilemma too as there is shortage of testing kits worldwide. Testing should be limited to the symptomatic and high-risk population till such time that testing kits are freely available. Universal screening is not advocated [18].

Another ethical consideration is the care of non-COVID patients. As more hospitals are getting converted to COVID hospitals and there is shortage of healthcare workers, the patients with chronic diseases are getting neglected. These patients are not visiting the hospitals for fear of getting infected. Suspension of non-emergency services by some hospitals has made matters worse for patients like those in need of regular hemodialysis or those in need of continuous follow-up and drug modifications.

15.3 Shortage of Personal Protective Equipment

The rapid spread of the COVID infection has created a shortage or unavailability of proper PPE. Centers for Disease Control and Prevention (CDC) identifies three levels of operational status: conventional, contingency, and crisis. The pandemic has put the world in a crisis situation where the supply of personal protective equipment (gown, face mask, gloves, face shield) is falling short of the increasing demand. One of the steps for ensuring supply of PPE is increasing the supply: by increasing manufacture or import from other countries. The demand can also be met by acquiring it from other non-healthcare sources and redirecting them to the health sector [19]. The American College of Physicians (ACP) and Project N95, a national, not-for-profit COVID-19 critical equipment clearing house, have partnered to provide personal protective equipment (PPE) for internal medicine physicians, during the COVID-19 pandemic. Conservation of existing PPE can be achieved by using it beyond the shelf life recommended by the manufacturer. If the masks are not torn or soiled by secretions, they can be re sterilized using ethylene oxide, UV, or gamma irradiation [20]. Another way of reducing the use of PPE is to cancel all non-emergency or elective surgeries.
15.4 End of Life and Palliative Care

It is clear from the experience with COVID pandemic so far that older patients with various comorbidities have a higher rate of mortality despite the best critical care services available. It was realized that good end of life care and palliative services are needed ethically to provide comfort to the patients and their families. Keeping this fact in mind, palliative care should be an integral part of pandemic planning. It is not possible for healthcare workers to provide end of life and palliative care services in a situation where they are already overburdened, resources are scarce, and they themselves may be in need of psychological support. For this reason, there is an increase in the demand for people who can provide end of life care so that people can die in dignity. The European Association for Palliative Care has provided a white paper on core competencies of palliative care which include taking care of the social, psychological, and spiritual needs of the patient and family and developing a strong patient-provider relationship [21]. Additionally, during a pandemic, like we are facing, certain important medical and ethical decisions need to be made.

The University of Washington provided a document for high-quality palliative care during crisis [22]. As there is an increase in demand for workers providing end of life care, every effort should be made to increase the number of people providing palliative care to the dying. This can be achieved by enrolling staff from other areas, training them in palliative care, and expanding the palliative care workforce [23]. Palliative care can also be offered at home or digitally for patients who cannot come to the hospital. Palliative care services should be made available in the emergency area, intensive care unit, and after routine hours to lessen the burden of work on the critical care physician. Some experts have suggested four elements of palliative care—stuff, staff, space, and systems [24–27]. Stuff includes medicines and drug delivery systems without hoarding so that shortage is not felt by others. Staff in the form of psychosocial workers, non-specialist staff, and bereavement counsellors can be trained for this purpose. Systems should be in place, like an advance care plan, which would help the physicians to identify those patients who would not benefit from critical care interventions like invasive ventilation. The pandemic is draining the economic resources of all countries, the low-income and middle-income countries being the most affected. For palliative care to be effective, all countries should increase their opioid reserves and train more people in their use [28].

One very important part of palliative care is communication with patient and family to outline the plan of care and provide them with psychological support [29]. Discussions with the family should include “do not resuscitate” options, benefits and outcomes of treatment, and options of palliative therapy. Anxiety and depression are common among family members of the dying patient too probably due to social isolation, their inability to meet their loved ones, or the fear of losing a family member, which further emphasizes the importance of communication.

It may not always be possible for palliative care workers to be physically present with the family due to strict infection control policies. Is palliative care ethically justified if it is given through digital technology [30, 31]? Will it affect the
relationship between the patient and the healthcare provider which is based on trust and is a core constituent of palliative care (European Association of Palliative Care)? Use of telemedicine for palliative care has not been completely evaluated nor any real benefits appreciated. The reason for this may be the fact that palliative care encompasses interdisciplinary care. The points in favor of remote palliative care are continuity of care, easy accessibility of integrated patient records, and monitoring of warning signs. Some of the limitations may be patient dissatisfaction due to the fact that the doctor spends more time looking at the screen. As a result, there may be less patient interaction. Patients with low literacy levels may be at a disadvantage when it comes to communication through digital methods.

Voluntary-assisted dying and euthanasia are terms being looked into in some countries where it is considered legal. In Netherlands, Australia, and Belgium, these practices are not being changed [32].

15.5 Cardiopulmonary Resuscitation

The COVID pandemic has forced intensivists to relook into the conventional ways of performing CPR. The role and benefits of CPR also need to be redefined in that subset of patients who are critically ill. The traditional ways may have to be modified to ensure safety of the provider. Due to a very high risk of spread of infection and limited availability of resources, the risks and benefits of performing CPR have to be weighed carefully. The ethical questions for the physician are “to do or not to do, and if justified, how much to do?”.

The first rule in a pandemic should be to respect the patient’s wishes especially in “do not resuscitate” scenarios [33]. Careful planning and communication with the patient and family play a very important role during these times. Having said this, the ethical principles of transparency, equity, and proportionality cannot be forgotten. Several countries have come up with new CPR guidelines during COVID. All of them put physician safety as the first directive.

The European Resuscitation Council has drafted guidelines for CPR during the pandemic, the recommendations of which are subject to change depending on the evolving information. According to these guidelines, the provider should identify which patients would require CPR [34]. In patients with advanced respiratory failure or multiorgan failure, in whom CPR may not be beneficial, it should not be attempted. The International Liaison Committee on Resuscitation (ILCOR) and CDC recommend the use of PPE for all staff involved in performing CPR [35]. CPR guidelines from the Australasian College for Emergency Medicine also emphasize on the fact that balance between appropriateness of CPR and the risk should be evaluated carefully [36]. The question a physician should always ask is “Is the resuscitation appropriate?”. The Indian Resuscitation Council has come up with guidelines for the management of cardiac arrest in COVID patients since it presents with a completely new subsets of challenges and problems [37].

Decision to resuscitate depends upon individual countries and regions. If CPR has to be done, the following points should be kept in mind [38]:

---

Note: The document contains content related to medical ethics and practice, particularly in the context of COVID-19, and may require specialized knowledge to fully understand.
(a) PPE is a must for everyone involved in conducting CPR.
(b) The number of people in the room should be the bare minimum required for performing CPR.
(c) The safety of all personnel, self and nursing staff, should be kept in mind by the team leader conducting the CPR.
(d) Chest compression and airway interventions during CPR are aerosol-generating procedures, whereas defibrillation is not. Defibrillation can be performed by first responders provided patients mouth and nose are covered [39].
(e) Avoid chest compressions, bag mask ventilation, and non-invasive ventilation strategies whenever possible, and early insertion of supraglottic devices is recommended.

National Academies of Sciences, Engineering, and Medicine states that “crisis standards of care aim at saving the most lives possible under severe resource constraints, maintaining the core ethical principles of fairness, transparency, accountability, duty to care. The three cardinal points of crisis standard of CPR are-Acknowledge resource limitation, if DNR respect the wishes, forgo CPR if it is not beneficial and ensure safety of personnel” [40].

15.6 Research and Data Sharing

The need for research during the COVID pandemic became imperative as there is no known or proven therapy against this virus. As per the WHO guidelines, research can be carried out during an emergency situation provided ethical standards are followed and it has scientific validity (WHO Working Group on Ethics and Covid, World Health Organization. Guidance for managing ethical issues in infectious disease outbreaks. Geneva: WHO; 2016). Another important consideration should be that research should only be carried out if it does not impede ongoing response efforts. Research should not divert the resources meant for health care. Since COVID-19 is a pandemic, research projects should be coordinated at an international level to avoid duplication and to provide benefit to all. Research methodologies should be ethical and scientific and should keep in mind safety protocols. Individual informed consent is a basic ethical requirement for any research [41]. The same ethical guidelines hold true for development of a vaccine-informed consent and knowledge of the risks involved.

Since the research in a pandemic involves several countries and the timeline is not defined, it is important to develop a core protocol at the beginning of the research. This involves engaging researchers and representatives from the participating countries in forming the primary research questions and main design elements [42]. The Coalition for Epidemic Preparedness Innovations (CEPI), an international non-governmental organization, is coordinating at the international level for rapid development of vaccine against COVID [43]. Results of any research should be shared with the public health officials, the participants, and the affected population. Journals can help in early and widespread dissemination of information.
The International Bioethics Committee (IBC) and Commission on the Ethics of Scientific Knowledge and Technology (COMEST) stress that policies which are not based on sound scientific knowledge and practices are unethical as they work against the effort to build a common response to the pandemic [44].

An example of a drug trial is the Solidarity Trial, launched by WHO on March 18, 2020. On July 4, 2020, it discontinued the hydroxychloroquine and ritonavir/lopinavir arms as they did not produce any significant decrease in the mortality of hospitalized patients when compared to standard care.

What is the ethical standing on compassionate use of drugs like HCQ and remdesivir [45–47]? These are antimalarial and antiviral drugs which are not FDA approved for COVID-19 treatment but have been given a special status of expanded access by the FDA. In low-income countries, it may be ethically justified to use these drugs for life-threatening conditions. In India, the Union Health Ministry has issued a draft notification (June 5, 2020) for compassionate use of any unapproved drug for critically ill patients that is in phase III of clinical trial globally by applying to the central drug regulator.

15.7 Telemedicine

Telemedicine comprises remote diagnosis and treatment of patients by means of electronic communication technology such as video and phone calls or chatting apps. In the present times, telemedicine serves several important purposes—social distancing, early detection of warning signs, and forward triage-sorting of patients before they arrive in the emergency department [48]. Healthcare providers across the world have increased the availability of telemedicine during the pandemic to lessen their burden on home visits. These services are useful for certain set of patients like the geriatric population who cannot travel to the hospital and those living at remote locations who are often unable to travel for follow-up care [49, 50].

Most of the countries have no legal framework or guidelines for medical practitioners to provide remote medical consultations during a pandemic. In India, the Union Ministry of Health and Family Welfare came up with guidelines on telemedicine practices on March 25, 2020. According to these guidelines, only a registered medical practitioner in India is allowed to practice telemedicine after he completes a mandatory online course. Furthermore, doctors using telemedicine shall uphold the same professional and ethical norms and standards as applicable to traditional in-person care, within the intrinsic limitations of telemedicine. It also emphasizes the fact that telemedicine consultation should not be anonymous: both patient and the practitioner need to know each other’s identity (Appendix 5 of the Indian Medical Council Professional Conduct, Etiquette and Ethics Regulation, 2002). To meet demand amid the pandemic, US Department of Health and Human Services announced a temporary easing or suspension of various telehealth regulations in mid-March. All physicians who participate in telehealth have an ethical responsibility to uphold fundamental fiduciary obligations by disclosing any financial or other interests the physician has in the telehealth application (Ethical Practice in
Telemedicine—American Medical Association). Also, Medicare is now providing reimbursement for telemedicine visits conducted in both the inpatient and outpatient settings during the COVID-19 pandemic under the 1135 Waiver [51, 52]. The European Data Protection Board has also issued a statement on protecting sensitive personal information and allowed processing of personal data to be used in a public health emergency. These are some of the examples of how the world is trying to use digital data responsibly. Data protection rules and regulations need to be looked into and stricter guidelines implemented as the use of telemedicine will increase in the future. Telemedicine apps with more safety features have to be developed for future use too.

15.8 Ethical Use of Alternative Medicine

India and China are among the few countries who are encouraging the use of traditional and indigenous systems of medicines in this pandemic, either as an immunity booster or as prophylaxis. Monitored Emergency Use of Unregistered and Investigational Interventions (MEURI) is an ethical protocol developed by the World Health Organization to evaluate the potential use of experimental drugs in the event of public health emergencies. The protocol was created by the WHO Ebola Ethics Working Group in 2014 [53]. This is useful in situations when there is no effective treatment available, but can only be used after ethical clearance from the relevant authorities. Patients’ informed consent has to be taken and results monitored. This protocol can be used for future pandemics and applies to traditional medicine systems too, provided their safety is proven and documented. In India, there are multiple systems of medicine like homeopathy, Unani, Ayurveda, Siddha, and naturopathy, all of which are grouped under a common name—AYUSH. The National Health Policy of India also emphasizes on the integration of these systems with modern medicine. The people of India have the right to choose and follow any system of medicine. These systems should follow the ethical principles of fairness and transparency [54, 55], though their efficacy still remains unproven.

15.9 Conclusion

As the world unites to fight against a common unknown enemy, the healthcare workers should continue to work keeping ethical principles in mind. “Do no harm” should be the first and foremost dictum. New research is opening up a lot of information on the coronavirus and its treatment. Despite multiple treatment modalities being used world over, no randomized control trials have proven the efficacy of a drug till date. Development of a vaccine also seems a long way ahead. There are several unanswered questions for the healthcare professionals. Till such time that we are ready with answers, the health workers have to work in difficult circumstances, under a lot of mental stress, keeping all the ethical and legal issues in mind.
Bibliography

1. Simonds AK, Sokol DK. Lives on the line? Ethics and practicalities of duty of care in pandemics and disasters. Eur Respir J. 2009;34(2):303–9.
2. Berlinger N, Wynia M, Powell T, Milliken A, Fabi R, Cohn F, Guidry Grimes LK, et al. Ethical Framework for Health Care Institutions responding to novel coronavirus SARS-CoV-2 (COVID-19), guidelines for institutional ethics services responding to COVID-19 managing uncertainty, safeguarding communities, guiding Practice. The Hastings Center; 16 March 2020.
3. Gopichandran V. Clinical ethics during the Covid-19 pandemic: missing the trees for the forest. Indian J Med Ethics. Online first published April 30, 2020.
4. Davies C, Shaul R. Physicians’ legal duty of care and legal right to refuse to work during a pandemic. CMAJ. 2010;182(2):167–70.
5. Tait S, Jonathan R, Mickey T. Addressing sources of anxiety among health care professionals during the COVID-19 pandemic. JAMA. 2020;323(21):2133–4.
6. Menon V, Padhy SK. Ethical dilemmas faced by health care workers during COVID-19 pandemic: issues, implications and suggestions. Asian J Psychiatr. 2020;51:1–2.
7. Draper H, Sorell T, Ives J, Damery S, Greenfield S, Parry J, et al. Non-professional healthcare workers and ethical obligations to work during pandemic influenza. Public Health Ethics. 2010;3(1):23–34.
8. Verano M, Bartolini G, Giannini A, Gristina A, Livigni S, Mistaletti G, et al. Clinical ethics recommendations for the allocation of intensive care treatments in exceptional, resource-limited circumstances: the Italian perspective during the COVID-19 epidemic. Crit Care. 2020;165(24):1–3.
9. De Pergola PA. Ethical guidelines for the treatment of patients with suspected or confirmed novel coronavirus disease (COVID-19). Online J Health Ethics. 2020;16(1):1–59.
10. Hick JL, Hanfling D, Wynia MK, Pavia AT. Duty to plan: health care, crisis standards of care, and novel coronavirus SARS-CoV-2. NAM perspectives discussion paper. National Academy of Medicine; 2020; p. 1–13.
11. White DB, Katz MH, John LJM, Lo B. Who should receive life support during a public health emergency? Using ethical principles to improve allocation decisions. Ann Intern Med. 2009;150(2):132–8.
12. Robert R, Kentish-Barnes N, Boyer A, Laurent A, Azoulay E, Reignier J. Ethical dilemmas due to the Covid-19 pandemic. Ann Intensive Care. 2020;10:84.
13. Singh JA, Moodley K. Critical care triaging in the shadow of COVID-19: ethics considerations. S Afr Med J. 2020;110(5):355–9.
14. Maves R, Downar J, Dichter J, Hick J, Devereaux A, Geiling J, et al. Triage of scarce critical care resources in COVID-19 an implementation guide for regional allocation an expert panel report of the task force for mass critical care and the American College of Chest Physicians. Chest. 2020;158(1):212–25.
15. Emanuel E, Persad G, Upshur R, Thome B, Parker M, Glickman A, et al. Fair allocation of scarce medical resources in the time of Covid-19. N Engl J Med. 2020;382(21):2049–55.
16. White D, Lo B. A framework for rationing ventilators and critical care beds during the COVID-19 pandemic. JAMA. 2020. Viewpoint E1-E2.
17. Hurford J. The BMA COVID-19 ethical guidance: a legal analysis. New Bioeth. 2020;26(2):176–89.
18. Kramer J, Brown D, Kopar P. Ethics in the time of coronavirus: recommendations in the COVID-19 pandemic. J Am Coll Surg. 2020;230(6):1114–8.
19. Livingston E, Desai A, Berkwits M. Sourcing personal protective equipment during the COVID-19 pandemic. JAMA. 2020;323(19):1912–4.
20. Centres for Disease Control and Prevention. Strategies for optimizing the supply of facemasks. 2020. Updated June 28, 2020.
21. White Paper on standards and norms for hospice and palliative care in Europe: part 1 Recommendations from the European Association for Palliative Care. Eur J Palliat Care. 2009;16(6):278–9.

22. Fausto J, Hirano L, Lam D, Mehta A, Mills B, Owens D, et al. Creating a palliative care inpatient response plan for COVID19—The UW medicine experience 2020. J Pain Symptom Manage. 2020;60(1):e21–6.

23. Gamondi C, Larkin P, Payne S. Core competencies in palliative care: an EAPC white paper on palliative care education – part 1. Eur J Palliat Care. 2013;20(2):291–5.

24. Downar J, Seccareccia D. Palliating a pandemic: “all patients must be cared for”. J Pain Symptom Manage. 2010;39(2):86–91.

25. Arya A, Buchman S, Bruno Gagnon B, Downar J. Pandemic palliative care: beyond ventilators and saving lives. CMAJ. 2020;early-released 1–5.

26. Etkind S, Bone A, Lovell N, Cripps R, Harding R, Higginson I, et al. The role and response of palliative care and hospice services in epidemics and pandemics: a rapid review to inform practice during the COVID-19 pandemic. J Pain Symptom Manage. 2020;60(1):e31–40.

27. Pattison N. End-of-life decisions and care in the midst of a global coronavirus (COVID-19) pandemic. Intensive Crit Care Nurs. 2020;58:102862.

28. Radbruch L, Knaul F, Lima L, Joncheere C, Bhadelia A. The key role of palliative care in response to the COVID-19 tsunami of suffering. Lancet. 2020;395:1467–9.

29. Fadul N, Elsayem AF, Bruera E. Integration of palliative care into COVID-19 pandemic planning. BMJ Support Palliat Care. 2020;bmjspcare-2020-002364.

30. Payne S, Tanner M, Hughes S. Digitisation and the patient–professional relationship in palliative care. Palliat Med. 2020;34(4):441–3.

31. Hancock S, Preston N, Jones H, Gadoud A. Telehealth in palliative care is being described but not evaluated: a systematic review. BMC Palliat Care. 2019;18(114):1–15.

32. Radbruch L, Knaul F, Lima L, Joncheere C, Bhadelia A. The key role of palliative care in response to the COVID-19 tsunami of suffering. Lancet. 2020;395:1467–9.

33. Nolan JP, Monsieurs KG, Bossaert L, Bottiger BW, Greif R, Lott C, et al. European Resuscitation Council COVID-19 guidelines executive summary. Resuscitation. 2020;153:45–55.

34. International Liaison Committee on Resuscitation. COVID-19 infection risk to rescuers from patients in cardiac arrest; 30 March 2020.

35. Craig S, Cubitt M, Jaisson A, Troupakis S, Hood N, Fong C, et al. Management of adult cardiac arrest in the COVID-19 era. Interim guidelines from the Australasian College for Emergency Medicine. Med J Aust. 2020;213(3):126–33. (published online: 24 April 2020).

36. Singh B, Garg R, Chakra Rao S, Ahmed SM, Diviatia JV, Ramakrishnan TV, et al. Indian Resuscitation Council (IRC) suggested guidelines for Comprehensive Cardiopulmonary Life Support (CCLS) for suspected or confirmed coronavirus disease (COVID-19) patient. Indian J Anaesth. 2020;64(S91):1–6.

37. DeFilippis E, Ranard L, Berg D. Cardiopulmonary resuscitation during the COVID-19 pandemic: a view from trainees on the front line. Circulation. 2020;141:1833–5.

38. Ott M, Milazzo A, Liebau S, Jaki C, Schilling T, Krohn A, et al. Exploration of strategies to reduce aerosol-spread during chest compressions: a simulation and cadaver model. Resuscitation. 2020;152:192–8.

39. Kramer D, Lo B, Dickert N. CPR in the Covid-19 Era - an ethical framework. N Engl J Med. 2020;383:e6.

40. Global coalition to accelerate COVID-19 clinical research in resource-limited settings. Lancet. 2020;395:1322–5.

41. Dean N, Gsell P, Brookmeyer R, Crawford F, Donnelly C, Ellenberg S, et al. Creating a framework for conducting randomized clinical trials during disease outbreaks. N Engl J Med. 2020;382(14):1366–9.
43. Lurie N, Saville M, Hatchett R, Halton J. Developing Covid-19 vaccines at pandemic speed. N Engl J Med. 2020;382(21):1969–73.
44. Statement on Covid-19: ethical considerations from a global perspective Statement of the UNESCO International Bioethics Committee (IBC) and the UNESCO World Commission on the Ethics of Scientific Knowledge and Technology (COMEST) at, www.https://en.unesco.org/themes/ethics-science-and-technology/comest (Accessed on 20.09.2020).
45. Tansey S, Cottam B, Dollow S, Lockett A, Miils I, Vranic I. The ethics of conducting clinical trials in the search for treatments and vaccines against COVID-19. Faculty of Pharmaceutical Medicine blog; 21 April 2020.
46. Kalil A. Treating COVID-19—off-label drug use, compassionate use, and randomized clinical trials during pandemics. JAMA. 2020;323(19):1897–8.
47. Grein J, Ohmagari N, Shin D, Diaz G, Asperges E, Castagna A, et al. Compassionate use of remdesivir for patients with severe Covid-19. N Engl J Med. 2020;382:2327–36.
48. Hollander J, Carr B. Virtually Perfect? Telemedicine for Covid-19. N Engl J Med. 2020;382(18):1679–81.
49. Vidal-Alaball J, Acosta-Roja R, Hernandez N, Luque U, Morrison D, Perez S, et al. Telemedicine in the face of the COVID-19 pandemic. Aten Primaria. 2020;52(6):418–22.
50. Hau YS, Kim JK, Hur J, Chang MC. How about actively using telemedicine during the COVID-19 pandemic? J Med Syst. 2020;44:4107–8.
51. Ienca M, Vayena E. On the responsible use of digital data to tackle the COVID-19 pandemic. Nat Med. 2020;26:458–64.
52. Calton B, Abedini N, Fratkin M. Telemedicine in the time of coronavirus. J Pain Symptom Manage. 2020;60(1):e12–4.
53. World Health Organization. Notes for the record: consultation on monitored emergency use of unregistered and investigational interventions for Ebola Virus Disease (EVD). Geneva: WHO.
54. Ministry of Health and Family Welfare, National Health Policy 2017. New Delhi: Ministry of Health and Family Welfare, National Health Policy; 27 August 2018.
55. Chaturvedi S, Kumar N, Tillu G, Deshpande S, Patwardhan B. AYUSH, modern medicine and the Covid-19 pandemic. Indian J Med Ethics. Published online on May 13, 2020.