An Ethical Dilemma in SARS-Cov-2 Pandemic : Who Gets the Ventilator?

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Abstract

Since the current pandemic is an emergency situation worldwide, there's a shortage of mechanical ventilators, intensive care unit (ICU) beds, and other medical equipment. Due to new disease and insufficient medical data, it is difficult to ensure access to life-saving treatments for people with various vulnerabilities. From an ethical point of view, the current guidelines and recommendations, as incomplete as they are, suggest the utilitarian principle that the allocation of life-saving treatments is based on assessing patients' chances of survival.

Keywords: Ethics, Severe Acute Respiratory Syndrome Coronavirus *2 (*SARS-Cov-2), Guidelines, Utilitarianism

Introduction

This year, the world is facing a global pandemic with the novel Coronavirus (SARS-CoV-2) and the associated disease COVID-19, which has affected people in more than 173 countries. The outbreak has brought a lot of consequences related to individuals, societies, and the global economy. This novel infection presents serious clinical symptoms which lead to deaths in major cases (Washington DC: Department of Health and Human Services, 2017; De Wir E et al, 2016). First, it was recognized in December 2019 and was demonstrated to be caused by a novel Coronavirus, which is structurally related to the virus that causes severe acute respiratory syndrome (SARS). As it is known, in the past 18 years, Coronaviruses produced 2 other outbreaks emergences: SARS (2002–2003) and Middle East respiratory syndrome (MERS) (2012 to present). Therefore, the COVID-19 has been responsible in

bringing important changes in public health systems, intensive care units (ICUs), and medical communities.

The transmission for any respiratory virus has implications for the population. Notably, a recent study indicates that a basic reproduction number (R_0) of 2.2, which means that each infected person spreads the infection to at least 2 other people. The authors of the study concluded that unless R_0 falls below 1.0, it is possible that the pandemic will continue to spread (Holshue ML et al, 2020).

In such a situation, when the course and impact of COVID-19 are not known, it is hard to estimate its consequences on public health systems and the health-care infrastructure.

It has been demonstrated that 95% of the COVID-19 infections result in mild symptoms; however, symptoms are stringer in some patients, especially elderly (> 65 years old) who have other comorbidities such as cardiovascular diseases, diabetes mellitus, and chronic obstructive pulmonary diseases (COPD). Because in these cases, the symptoms deteriorate quickly in severe bilateral pneumonia; these patients require mechanical ventilation and admission in the ICU (Vergano M et al, 2020).

In all these cases, a difficult ethical dilemma is rising: whom do we chose for admission? Who gets an ICU bed? Who gets a ventilator? In such situations, doctors have to choose who will get the chance to live and who will die.

Since December 2019, we are hearing about Wuhan in China. Early 2020, we started hearing about Lombardy region in Northern Italy and Spain, countries where the mortality rate increased in elderly COVID-19 patients with underlying comorbidities. In Italy, more than 90% of the deceased patients were above 70 years old. In Netherlands, 75% COVID-19 patients were elderly. In such cases, a common ethical dilemma is rising regarding how doctors must decide who gets an ICU bed or a ventilator.

Facing this dilemma, Italian doctors managed the situation considering the ethical utilitarian principle, which stipulates that doctors have to maximize health by directing health care to those who are most likely to benefit from it. A document from Northern Italy says that in cases of emergency, the criteria to access the ICU depends on the age and comorbidity of the patient, meaning that patients less than 80 years of age or with a score less than 5 on Charlson Comorbidity Index (CCI) will not be hospitalized.

If a hospital has only one ventilator, it is supposed to go to the individual who has the most chances to survive instead of someone who is unlikely to do that the same (Maunk Y, 2020).

Doctors are here in the dilemma of making a double moral decision to maximize the good associated with not doing harm, in balance with removing the vulnerable who have little chance of survival.

For instance, if a patient needs a ventilator for 3 weeks and there are three other patients who need the ventilator for only one week, how should the doctor decide who will live and who will die? The doctor will need to take into account the duration of use and chances of survival for all cases.

In many states, strategies have been developed regarding rationing during pandemics. The New York Guidelines focus on saving lives that are defined as *patient's short-term likelihood of surviving the acute medical* episode (Christian M et al, 2020; New York Department of Health November 2015). Moreover, the principle of triage was developed in the 18th century by military doctors to help decide who should be treated on the battlefield because not all the soldiers had survival chances. In the present times, doctors are in the same scenario, deciding how to allocate limited medical resources to benefit the largest number of patients, those who have chances to survive (Cohn J, 2020). Ethically, hospitals and doctors have to work to save as many lives as possible, but how should it be done in pandemics? Hospitals and medical centers should not decide based on a lottery or on income, race, gender, ethnicity, or medical insurance (UK Department of Health, 2007; Tower E et al, 2020).

In one case, two women were hospitalized with the same diagnosis: respiratory failure. One of them was 42 years old, had a family, was employed, and had no other health condition. The other was 80 years old, had 4 other chronic diseases and was living in a nursing home. In this case, if doctors saved the 40-year-old patient, she can be expected to live for 30–40 years. The other patient, however, in the best case, will live just a few more years.

Talking about allocation of resources in a pandemic, the utilitarian theory is the main concept, followed by egalitarianism, which stipulates that everyone must have an equal chance at receiving treatment.

The utilitarian theory stipulates that moral decisions should be made after calculating the burden/benefit ratio from the societal view. This theory promotes the good of the society over the benefits of a person (Persad G et al, 2009; Rosenbaum SJ et al, 2011).

When we talk about prioritizing the allocation of resources during a pandemic, some ethical questions have to be answered, such as:

a. How to maximize the benefits produced by scarce resources in a pandemic?
b. How to offer equal treatment to all patients?
c. How to promote instrumental values?
d. How to give priority to worst-off patients?

a. In a pandemic situation, the first step is to maximize the benefits as it has the most valuable actors. Saving more lives is the most important for all doctors. It's common in both utilitarian and non-utilitarian ethical views

(Emaneul EJ et al, 2006; Rubinson L et al, 2010). Because of limited time and information on COVID-19, it is justifiable to give priority to maximizing the number of patients that survive the treatment and have a reasonable life expectancy. To maximize the benefits of health care, in such a period, it is advisable to remove patients from ventilators or ICU beds and provide them to those in need. It is a justifiable fact and patients should be aware of this possibility during admission (Holshue ML et al, 2020; Rosenbaum SJ et al, 2011; Hick JL et al, 2020). On the other side, many guidelines agree that since withdrawing a patient from a ventilator to save others is not an act of killing, it does not need the patient's consent (Rosenbaum SJ et al, 2011; Emanuel EJ et al, 2006; Ministry of Health -North Sydney , Australia, 2010).. However, decisions to withdraw ventilators during a pandemic to make resources available to others is not justified in either of the two ways: it is not being done at the request of the patient or surrogate, nor it can claim that the treatment is futile. Even if the chances of survival are low, in the absence of a pandemic, the treatment would have been continued for such patients (Kliff S et al, 2020).

b. When we talk about equal treatment to all patients, we have to think about the patients who have similar prognosis in the same disease. In these cases, equality should be allowed through random allocation, such as a lottery system, rather than on a first-come, first-served basis. This principle is frequently used in cases of human organ transplants (e.g., kidney, lung, liver, heart, etc.), when finding a compatible organ takes time and many patients can live without it. However, when we talk about a pandemic, the principle of "first-come, first-saved"' cannot be applied because of the urgency of the situation. Doctors have to prioritize the cases and the patients depending on their chances of surviving.

c. When we talk about "promoting and rewarding the values", first, we have to think of the medical workers who are fighting this pandemic at the frontline. They need to be the priority in SARS-CoV-2 molecular testing, equipment, ICU beds, ventilators. treatments, and vaccines. It is indeed an ethical approach to prioritize the medical workers (doctors, nurses, etc.) because they are the most important and valuable assets in a pandemic. If they get sick and are incapacitated, all the patients, not only those with COVID-19 but also other diseases, will suffer a greater mortality rate (Rosenbaum SJ et al, 2011; Biddison LD et al, 2014). However, there must not be any abuse by prioritizing rich or famous people, as has happened in many cases so far because such abuses undermine the trust in fair allocation (Biesecker M et al. 2020). Instead, patients in need and medical workers must be prioritized.
The human medical resource is vital in any epidemic and especially in the pandemic, it cannot be compensated or replaced as easily as the resource of

medicines and medical supplies. In addition, the overwhelming number of serious patients to which is added the limited knowledge about the evolution of SARS CoV-2 and the uncertainties of the therapeutic method, increase the vulnerability of the medical staff.

d. Talking about the principle of "giving priority to the worst off" tells us that doctors are not allowed to differentiate between patients with COVID-19 and those with other medical diseases in the allocation of resources during a pandemic. Unfortunately, the pandemic will affect all patients, including those with chronic diseases such as cancer, cardiovascular diseases, diabetes mellitus, etc. In case ventilators are limited in a hospital, some patients will be excluded from the priority list. However, doctors should not abandon these patients; instead, they must offer any available alternatives and treatments, such as palliative care. Fair allocation of medical resources applies to all the patients who need them. In case of a doctor who has suffered an allergy and got into an anaphylactic shock and needs a mechanical ventilator to survive, he should receive priority over other patients, even the ones with COVID-19, because he works at the frontline and patients need him(Daugherty Biddison EL, et al.2019).

Regarding allocation of life-saving resources during a pandemic, peoples' involvement is essential when they have to choose what principles of ethics should guide this decision. Moreover, the people get the right to decide this because in a pandemic, finally people are those who bear the consequences of triage decisions (Childress JF, et al.2002).

Conclusion

In the present SARS-CoV-2 pandemic, there are many unsolved ethical dilemmas regarding allocating ventilators which were considered essential and ICU beds to those who are in need, even if there are scarce medical resources. At the end of this manuscript, we conclude that the best way of allocating these medical resources must be as ethical as possible. We believe that a moral guarantee for the principle of beneficence that doctors must practice is the intense dynamics of knowledge in the current pandemic with which medical staff do their best to be informed and especially make efforts to apply it to all the patients.

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