JMEAI
Journal of the Iranian Scientific Association of Medical Ethics
J Iran Sci Asso Med Ethi.2025; 1(2): 14-21
https://jirme.com
Review Article
OPEN ACCESS

Preparedness; A Critical Principle for Ethical Response to Emergencies such as Covid-19

Ali Khaji

Assistant Professor of Medical Ethics, Iranian Research Center on Aging, University of Social Welfare and Rehabilitation Sciences, Tehran, Iran, Email al.khaji@uswr.ac.ir, Tel: +98- 21 71732832.

ABSTRACT

Discussions on the ethical issues of triage have risen again in scientific centers following the spread of Covid-19. There are two categories of factors (medical and non-medical) for decision making in triage and patient prioritization. In the event of a severe shortage of resources, non-medical factors will play a major role in prioritizing patients, which causes many ethical challenges. It will be very difficult to manage the challenges without prior preparation and guidance, which may lead to unethical behaviors and decisions. Preparation itself, as an ethical principle, plays an important and fundamental role in the appropriate and timely response to the epidemic. Failure to pay attention to preparation as a moral principle will result in several ethical challenges in responding to the epidemic. Part of what has to do with triage is to define the ethical principles of triage and reach a consensus on it, first among the medical staff and then among the general public. All of this must be done before emergencies occur.

Keywords: Humans, Emergencies, Morals, Medical Staff, Covid-19

Please cite this article as follows: Khaji A. Preparedness; A Critical Principle for Ethical Response to Emergencies such as Covid-19. J Iran Sci Asso Med Ethi.2025; 1(2): 14-21.

Introduction

With the increase in the number of patients with Covid-19 and especially patients who need to be admitted to the intensive care unit, there has been a growing debate about how to prioritize patients with Covid-19 for admission to the ICU or ward. Inadequate availability of vaccine and the required drugs are another challenge in managing of Covid-19 pandemic. All of this and now vaccination has raised an ancient debate about resource allocation in emergency situation (1-3).

Short supply of ventilators, medical personals, ICU beds, etc., repeatedly lead to discussions on the factors that should be considered by medical staff when they are allocating scarce resources (1). Up to now, ethical viewpoints have been expressed about this but in each new public health emergencies the debate escalate since the diversity of ethical viewpoints (4-6). There are many methods for distributing medical resources based on the level of decision-making including macro, moderate, and micro. In the patient's bed (Micro), triage has been used from decades. The history of this model of triage goes back to World War II, where injured patients were categorized into four groups (7):

1- Dead or dying (Black Tag)

2- Need urgent treatment (Red Tag)

3- Severe injury or illness where treatment can be delayed (Green Tag)

4- Minor injuries that are not life-threating (Yellow Tag)

The main debate is on Red Tag patients and the main challenges began when health groups were faced with shortage of resources for the many Red Tag patients, which demanded a hard and controversial decision. Triage, as defined, has been based on utilitarian theory that say the Maximum profit for most people (5, 8-10).

How to prioritize when resources are limited

To determine the priority of patients, there are two groups of factors. First, the medical condition of the patients is evaluated and then the non-medical factors.

1- Medical factors: three issues help physicians prioritize their patients according to their medical condition (11).

A- Need for treatment: patients with the worst condition have the highest priority.
B- Efficacy: The effectiveness of the curative measures. Patients who cannot be cured with the resources that can be afforded to them hold a lower priority. Nevertheless, palliative treatment is used for them.
C- Survival rate: Survival rate is calculated in two forms, including short-term and long-term. Several factors are involved in determining the long-term survival rate, it is not feasible or is at least very difficult to assess and/or predict them, and therefore, this factor should not be used in triage. Short-term survival rate is a sufficient measurement, where assessing their current and previous conditions in addition to their comorbidities is essential for predicting the likelihood of patient survival (4, 12).

At this stage, following behaviors are recommended to make our choice fair.

- First: Cooperation of medical institutions. All hospitals and medical centers must be connected together to share their facilities and equipment and cover the needs of all patients, wherever they are. Otherwise, the shortage will not be a real shortage. For example, one institution may have empty ICU beds while another institution that lacks ICU beds is visited by patients who need ICU beds. If there is no coordination between the medical centers in that region or city, there will be a shortage that is not real. In addition, survival will be determined by the institution that a patient is admitted to by chance, which is a symbol of injustice.

-Second: Periodic evaluation of the situation of patients (11). New decisions are made if new resources become available or their situation improves. This behavior leads to what is called “Repeat Triage”. Of course, there are special

ethical challenges for this. Re-triage implies limited treatments, incomplete treatments, and discontinuation of treatment. Here the focus is on the two patients. On the one hand, a patient who is being treated and we may have to stop his/her treatment. On the other hand, we may decide to start treatment for a new patient since our evaluation show that he/she (who has received to hospital recently) has priority to the former (13).

- Third: Use of a single guideline for evaluating and providing care to patients across all institutions. One of the main factors that could help ensure the fairness of the provided services is the existence of the same guidelines in all medical centers (3). As a result, patients in all centers will be treated for the same illness or injury in the same way—based firstly on a scientific guideline instead of individual doctors and their experiences, and on the other hand, the treatment of people with the same medical condition will be similar.

2- Non-Medical Factors. When medical factors fail to determine the priority, the majority of medical staff use non-medical factors instead, which include various conditions according to experts, such as age, social value, quality of life, kinship and emotional relationships, having multiple abilities, ability to care for others, priority of relief forces, and life expectancy. Among these, “age” has attracted more attention than others.

Age: As one of the non-medical factors in triage, several theories about the use of age have been suggested:

A- The most popular theory states that age alone cannot be used as an independent factor in triage of patients, but only as an influential factor along a patient’s medical situation. In all triage algorithms, age has been used as one of the influential factors for patient selection. Most experts believe that age, as a factor alongside medical factors, is acceptable. Most people believe that the lives of all human beings have equal value, so at any age, they are valuable and respectable. In addition, it is only the individual who can decide on the value of his life, not anyone else (14).

B- Some also believe that when patients' medical conditions are the same, between a young patient and an older patient, we should prioritize the young patient because he/she will live longer, arguing that the older patient has used his/her share of facilities by now, and by selecting a young person we allow him/her to live as old as possible (15). The acceptable range for comparing and equalizing people's age is the level of life expectancy. In other words, if life expectancy in a country is 70 years old, a 20-year-old should be prioritized over a 65-year-old. Let's give him a chance to live and reach the old traditions. With the same logic, a 10-year-old has priority over 20-year-old patients. The younger the patient, the higher the priority. To the theory of “the fair innings argument”, it is called as fair (16, 17). However, some experts argue that the reasons presented by the proponents of this theory are not convincing or sufficient. They believe that age cannot be used as a factor to deprive a patient of treatment. In addition, they state that the general public does not accept this (18, 19).

C- Some believe that healthcare should be distributed among age groups in a way that helps society rebuild itself. Therefore, preserving the lives of children and elderly patients is not as valuable as the lives of young patients (17). However, this theory does not have considerable advocates.

2- Social value: Many have stated that it is possible to use social values to prioritize patients when treatment effectiveness is not a possible option. They believe that the role, productivity and impact of the patient in the community can be an essential factor, since the most important goal in responding to public health emergencies (such as disasters/epidemics) is to return the community to its normal state as soon as possible and restore its function (6). Therefore, the higher the effectiveness of a patient, the higher the priority. Opponents state that it is impossible to use this factor for prioritization since it is unclear: 1- Who gets to determine the value? 2- What issues can be considered as values, since values vary in different societies? 3- How the future performance of an individual can be evaluated? 4- What kind of effectiveness is considered: a short-term or long-term phenomenon? 5- In addition, this assessment falls short of predicting the future and rewards past behavior instead (9). Considering these ambiguities, it is impossible to reach a single conclusion. How is it possible to evaluate a person's services to the community in the past as excellent, good, or average? The same goes for the future—if the provided treatment is successful, how can you predict whether their services in the future will be acceptable, better, or worse (9, 20).

3- Multiplier Effect**:** People with multiple abilities can be prioritized over resource allocation (medication + vaccination). It is believing that giving priority to people with multiple abilities can save more lives (20). If they are injured or sick, they should be given priority due to the shortage of manpower. Their recovery can be more effective in helping and treating other patients. In addition, this behavior sends a strong message to other medical staff that if they get sick/injured, they will be treated well, which motivates them to fulfill their role (21). This is towards a reciprocity view (22). It is recommended that in such cases, care be taken in a way that does not lead to discrimination and unfair treatment.

4- Life expectancy: Another factor is life expectancy. However, since various factors affect life expectancy, its relation to treatment is debatable. There are also unanswered questions, for example, how many years should we consider acceptable for someone to live and how many years of survival will be accepted in the future (9).

5- Quality of life (Q.L.): Another criteria can be the quality of life of a patient after being treated. It seems that Q.L. is a subjective matter and it is the people themselves who can comment on their quality of life, however, each person has their own unique view on their quality of life (17).

6- Relative and emotional relationship: Another important issue that can affect decision-making is consanguinity or empathy that is rooted in shared experiences. This may include a nurse or a mother. This criteria must not affect our prioritizations and must be avoided (17).

Ethical view: In regard to the ethics of triage, three theories are the most argued.

1- The utilitarianism perspective: everything that we have stated about medical and non-medical factors up to now were based on the Utilitarianism perspective. Utilitarianism can be described as a view that believes that whether an action is right or wrong, actions are determined by whether the result is good or bad. Utilitarianism believes that ethics is simply the definition and determination of those behaviors

that play the most effective role in providing the most persuasive goodness for all people (or all sensitive beings), indiscriminately. It is sometimes referred to as "most good for most people." The criterion used in this view can be: pleasure, avoidance of pain, good fortune, avoidance of misery, satisfaction of desires or tastes, avoidance of failure of desires and tastes, and perhaps depending anything else, depending on any other particular interpretation of utilitarianism, profits may have a different scale. This scale is called "utility". In the meantime, the controversial and vital point is what criteria are used to determine this scale. On the other hand, what features the scale should have? This scale, regardless of its type, should be approximately quantifiable and measurable. In such cases it can be compared among individuals and its value can be added and subtracted. At the same time, it should be noted that the requirement of morality is not that man should not be harmed.

Another feature is that in determination of the good and bad of deeds, the general benefit of those actions is important and the type and manner of its distribution among individuals is not considered and does not matter. This does not mean that everyone should benefit equally, or

bility of harming some is not accepted. Therefore, it is possible that some people will suffer from our decisions and behavior, but when we consider the overall effect, many people will benefit from it, so some loss is acceptable. The distribution of benefits among members of the target community should also be considered, and utilitarianism does not mean that all members of society will benefit equally from the gains. It is very difficult to predict all the possible consequences of our actions and decisions with certainty. Another point is, should we consider the short-time or long-term consequences? The unpredictability of the results is more apparent in predicting long-term consequences; therefore, it is believed that it is better not to prefer short-term consequences over long-term ones. An additional issue that needs to be addressed is that a behavior and/or a decision can have several consequences. Therefore, in order to evaluate the benefit of behaviors, it is better to consider two or more general consequences.

2- First-Come, First-Served: according to this view patients who arrive to the medical centers sooner have priority to receive medical treatment, regardless of their severity or the need of other patients. In fact, patients queue and wait their turn for treatment. In criticizing this approach it is stated that: the first advantage of this method is its simplicity and the fact that apparently all patients have an equal chance of receiving treatment, therefore, it seems fair. However, people with disabilities usually suffer more severe injuries and challenges, while others with better health and income can take better care of themselves, and arrive to a health center sooner than a disabled person. It does not seem moral. Without doubt, this view is inappropriate since it fails to prioritize patients who are eligible for medical care. This method deprives those with emergency conditions, rather than others, from treatment.

3- The egalitarian approach: this approach believes that limited resources must be directed to severe patients. The problem, however, is that it ignores the effectiveness of the provided care. Apparently, it's a good idea to prioritize people with more severe injuries, but some of these people will not benefit from their treatment (this is interpreted as futility). Simultaneously, while delivering ineffective treatment to one group, it

deprives others who are more likely to benefit from the same treatment and be saved.

Preparedness

Before we discuss non-medical factors, it is better to review medical factors more. For medical factors to become the criterion for decision-making, requiring less submission to non-medical factors, it is necessary to pay attention to a moral principle that is usually neglected—preparedness. It means that all individuals and organizations (public and private) that are supposed to help the victims of public health emergencies have the physical, scientific and mental ability to perform their duties (23). Education of staff and general population, Prepare and set of guidelines, Procurement of necessary tools and equipment (such as drug, beds and ….) are part of the steps that need to be taken (24). It is typical of people to imagine that crisis happen to others, and there is a low chance that it would actually affect them, as observed in the COVID-19 pandemic. Studying public health emergencies (such as: pandemics, natural disaster and etc) always reveals our lack of preparation. Any decision could be unethical when we are unprepared, since lack of preparedness denotes inadequate facilities and resources for a scientific and ethical response. In addition, not all people share the same ethical views and opinions. Being unprepared is the main and most essential unethical act committed by authorities, the result of which is decisions that the people must bear.

Preparedness to respond to an epidemic: It does not seem that the preparations for an epidemic have worked well in regard to the recent outbreak. A vital timeframe existed from the moment of the Covid-19 outbreak in China until the time each country was hit by its initial wave. Did these countries utilize this opportunity to take the necessary steps to respond to the epidemic? Some countries denied it, while some took it as a joke and many thought that they would be safe from this disease, which led to the golden time being lost. It seems that we did not take the necessary steps to respond appropriately and we were left unprepared. Of course, there was a few countries that take account and use the time properly.

One aspect of readiness is to prepare ourselves for decision-making in regard to resource shortages, for example, who will decide and based on what principles. To make our decisions fair, the ethical principles for prioritizing patients should be discussed by the medical staff as well as service recipients (the general population) before the occurrence of an epidemic, with the intention of reaching a consensus. Exclusively, triage, which is an important and usual strategy for evaluation and prioritizing of patients in patients' beds requires the mentioned process, especially in the non-medical factors section. Everyone expects medical staff to help them when they need it, but in the event of an epidemic, some patients will be informed that they will not be admitted to the intensive care unit due to the lack of resources, for instance those over 75. Who made this decision and on what basis? These are question that we must have proper and acceptable answers to, especially ones that can convince the general population.

Conclusion

It seems that the preparedness of a health system for responding to public health emergencies could determine its level of moral sensitivity. Preparation means to provide the necessary

equipment, instructions, coordination that is needed between all involved organizations, and many other measures. One of these measures is the preparation of ethical guidelines. In the absence of preparation, such as in the case of COVID-19 in some countries, we inevitably prioritize patients based on non-medical factors, a practice which is finds it very challenging to reach a collective agreement. When we are unprepared, the available resources will certainly not meet the needs. The situation will be so difficult that any decision in resource allocation can be considered immoral, because we will have to overlook human lives based on theories that is not strongly supported, even among medical staff. In conclusion, it would be better and more ethical to prepare before a public health disasters arrives.

Conflict of interest

None.

Ethical deceleration

None declared.

Financials founding

None.

References

1. Herreros, B., P. Gella, and D. Real de Asua, Triage during the COVID-19 epidemic in Spain: better and worse ethical arguments. J Med Ethics, 2020. 46(7): 455-58.
2. Hulsbergen, A.F.C., et al., Ethical triage during the COVID-19 pandemic: a toolkit for neurosurgical resource allocation. Acta Neurochir (Wien), 2020. 162(7): 1485-90.
3. White, D.B. and B. Lo, A Framework for Rationing Ventilators and Critical Care Beds During the COVID-19 Pandemic. JAMA, 2020.
4. Docrat, F., Haitian reflections. S Afr Med J, 2010. 100(8): 498-500.
5. Elcioglu, O. and I. Unluoglu, Triage in terms of medicine and ethics. Saudi Med J, 2004. 25(12): 1815-9.
6. Moskop, J.C. and K.V. Iserson, Triage in medicine, part II: Underlying values and principles. Ann Emerg Med, 2007. 49(3): 282-7.
7. Iserson, K.V. and J.C. Moskop, Triage in medicine, part I: Concept, history, and types. Ann Emerg Med, 2007. 49(3): 275-81.
8. Wagner, J.M. and M.D. Dahnke, Nursing Ethics and Disaster Triage: Applying Utilitarian Ethical Theory. J Emerg Nurs, 2015. 41(4): 300-6.
9. Knapp van Bogaert D, O.G., The quandaries of the principle of triage. South African Family Practice, 2005. 47(2): 47-9.
10. Petrini, C., Triage in public health emergencies: ethical issues. Intern Emerg Med, 2010. 5(2): 137-44.
11. Cloyd, E. and C.B. Dyer, Catastrophic events and older adults. Crit Care Nurs Clin North Am, 2010. 22(4): 501-13.
12. Kim, S.Y.H. and C. Grady, Ethics in the time of COVID: What remains the same and what is different. Neurology, 2020. 94(23): 1007-8.
13. Eyal, N., P. Firth, and M.G.H.D.R.E. Group, Repeat triage in disaster relief: questions from haiti. PLoS Curr, 2012. 4: e4fbbdec6279ec.
14. Clarke, C.M., Rationing scarce life-sustaining resources on the basis of age. J Adv Nurs, 2001. 35(5): 799-804.
15. Morey, T.E. and M.J. Rice, Anesthesia in an austere setting: lessons learned from the haiti relief operation. Anesthesiol Clin, 2013. 31(1): 107-15.
16. Kipnis, K., Triage and ethics. Virtual Mentor, 2002. 4(1).

17. Daniel, M., Bedside resource stewardship in disasters: a provider's dilemma practicing in an ethical gap. J Clin Ethics, 2012. 23(4): 331-5.
18. Bognar, G., Fair innings. Bioethics, 2015. 29(4): 251-61.
19. Rivlin, M.M., Why the fair innings argument is not persuasive. BMC Med Ethics, 2000. 1: p. E1.
20. Tannsjo, T., Ethical aspects of triage in mass casualty. Curr Opin Anaesthesiol, 2007. 20(2): 143-6.
21. Sztajnkrycer, M.D., B.E. Madsen, and A. Alejandro Baez, Unstable ethical plateaus and disaster triage. Emerg Med Clin North Am, 2006. 24(3): 749-68.
22. McLean, M.R., Allocating resources--a wicked problem. Health Prog, 2013. 94(6): 60-7.
23. Control, E.C.f.D.P.a., Infection prevention and controland preparednessfor COVID-19 in healthcare settings 3July2020: ECDC: Stockholm; 2020.
24. Eckenwiler, L.A., Ethical issues in emergency preparedness and response for health professionals. Virtual Mentor, 2004. 6(5): 235-41.