**Review Article**

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Ethical Rationing of Healthcare Resources during COVID-19 Outbreak: Review

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**ABSTRACT:**

While rationing of healthcare resources is inevitable even in the most developed economies, particularly on the wake of a pandemic, ethical basis of its implementation needs to be reviewed. With sudden and huge demand for drugs and medical supplies and equipments, the need for rationing arises and thus the concept becomes unavoidable. Thus we aimed to review and analyse on the key ethical issues in the concept of healthcare rationing. Our search in various MEDLINE databases resulted articles explaining on the concept of strategizing the priorities based on universal ethical principles of justice, benevolence and ensuring equality rather than wealth, power, geographical location or other personal biases. Concrete and pragmatic regulations and guidelines for systematic rationing have to be framed and followed. In addition, physicians being sensitive and empowered on deciding bed-side rationing in coordination with the recommendations of ethicists and healthcare officials, will ensure fair practice.

***Keywords:*** *COVID-19, Ethics, Healthcare Rationing, Justice, Pandemic.*

**Introduction:**

Pandemic episode of any disease is a sudden potential life threatening attack that rises alarm for global attention towards healthcare. The history of global public health has faced various episodes of pandemic of diseases like Influenza, Cholera, SARS, Swine flu and currently, SARS-CoV-2 / COVID-19. The episode of COVID-19 since its early phase of attack, proves to be a major challenge for global public health regarding its control and prevention.

Any potential life threatening pandemic demands immediate and complete attention of the entire nation, aside all the important issues at hand. Health departments at the time of pandemic is bound to make arrangements and frame strategies to contain the spread and handle the situation. The fundamental needs of human like food, water, clothing, shelter and education stands at stake added with the availability of healthcare resources. This need raises, even in most developed countries which fail to meet the demands every time down the history.

The stock, production and supply can never be met by the sudden and sharp increase in demand of specific healthcare resources. Hence the issue of rationing arises, which further limits the healthcare services. While rationing would be inevitable, the process of how it is implemented has to be considered. The core concepts of autonomy, beneficence and distributive justice have to be in balance.

***What is Rationing?***

Rationing, by definition, refers to allocation of resources available with restrictions entailing withholding of potential beneficiary treatments from some sector of people. This concept enters the radar of healthcare services at the time of epidemic or pandemic attacks. Rationing becomes unavoidable during the time, as the need becomes limitless while resources remain limited. Since centuries, physicians have struggled with the controversy of rationing though some deny while some admit, taking part in the allocation of medical care[1].

However, rationing is not entitled to medical field, but to other essential needs too like the food and water. But the concept is considered in the healthcare field, as it may deny the essential service to some who fight to survive. The Modern system of Rationing of food or healthcare resources, perhaps started with the World War – I, when production and supplies became extremely scarce and there is evidence that in India, rationing system was introduced way ahead during the rule of Allauddin Khilji in the 1390s CE.

In the developed countries, the things rationed may be less, but in developing nations and poor economies, food, water, shelter, clothing, technology and sometimes even education are provided on a priority. Healthcare is no exception. In times of natural calamities or man-made crises rationing is the only way of ensuring the scarce and little resources reach the maximum possible number of people. Hence rationing is a tool to be considered critical in terms of ethical values.

***Rationing – an inevitable concept:***

In many industrialized countries, social goods draw funds from a common source—including health care, education, defence, infrastructure, environmental protection, and public health. Although the need for such social goods is infinite, the resources available to supply them are limited. Attempting to meet all needs especially health-care would likely overwhelm our existing system and our capacity to supply basic elements of other social goods, such as public safety, education, and defence. Therefore, some degree of rationing of health care is necessary for the overall well-being of society[2].

Rationing in ICUs is a concept practiced on a daily basis, where a patient still under a small degree of monitoring will be transferred, to accommodate the need of another sicker patient due to the finite number of beds. Physicians ration their time to balance the needs of the patient and also against their non-professional obligations, like the responsibility of their own families[3].

Thus, in general, when resources are scarce, rationing becomes unavoidable. It is estimated that around 95% of global population is found to have health problems with nearly two-third suffering from more than five ailments, ranging from acute to chronic. Some people are also reported to face ailments that range from mild to severe to life threatening, requiring routine to emergency management and their healthcare requirements like medicines or diagnostic equipment is diversified. However, in regular conditions, this need for a particular drug or apparatus is no challenge while in times of an epidemic outbreak, the scenario completely turns upside down. There occurs a sudden and huge demand for essential drugs and equipments and most importantly, specifically trained healthcare professionals. This need for resources arises the scarcity which is inevitably followed by rationing.

Even in countries like the United States (US) which spend a bulk of the 17% of its annual GDP on healthcare and countries like India and Indonesia, who share around 3% of their GDP, the concept of rationing is similar and unavoidable[4].

Thus, the study aimed to analyse the rationing concept of healthcare resources during pandemics like COVID-19 and the need for specific ethical guidelines in its implementation.

**Objective:**

To review the concept of rationing in healthcare resources during COVID-19 and analyse the need for country specific ethical guidelines in its implementation.

**Materials and methods:**

We searched in various MEDLINE databases like PubMed, Science direct and Cochrane for articles reporting the concept of rationing of healthcare resources and its ethical implications. The keywords used were “Rationing of healthcare resources” AND “Ethical considerations” OR “Rationing impact on ethical guidelines” OR “Ethical guidelines in rationing during pandemics”.

**Results:**

Our search yielded reports on the rationing of healthcare resources, its need and its ethical implications occurred down the history. Rationing of healthcare resources is found to be a regular routine in some sectors of healthcare while the concept is under practice all over the world during times like pandemics. In the midst of infinite needs of healthcare resources whose availability is finite and varying in different countries, there is an immediate demand of country specific ethical guidelines in rationing of healthcare resources.

***Ethical considerations in Pandemic response:***

The concept of ethics in healthcare in general varies from the principles considered during a pandemic episode. The planning and response to any pandemic involves various steps to consider and evaluate for policy making. Evaluating the content of pandemic preparations and response plans includes duty-related and outcome-based considerations, as they constitute the policy to be developed. Preparedness planning for any pandemic involves balancing of potentially conflicting individuals and community interest. The individual human rights and liberties during an emergency becomes limited due to public interest[5].

Individual liberties may be sacrificed for the health of the overall public which may involve measures such as home quarantine, banning public meetings, or even significant disruption to normal life. During pandemic, many aspects of the management plan, such as rationing of antivirals and vaccines, occupational risks to health care workers and their families, compulsory vaccinations of certain workers, cessation of many normal health services, and quarantine measures, would also raise major ethical issues.

Thus, public engagement and involvement of relevant stakeholders should be considered in all aspects of planning and the policy decisions should be disseminated widely. Experience with previous epidemic health emergencies, such as the severe acute respiratory syndrome (SARS), has shown that, without a clear ethical framework and an understanding of the decision-making process, decisions may not be readily accepted either by health care workers or by other members of an affected community.

Certain core values of our community, such as equality, liberty and privacy, may be challenged or re-prioritised by pandemic planning. The overall approach of the plan will aim to protect the greatest number of people in society from becoming unwell, and keep society functioning as optimally as possible[6].

The ethical values to be considered and protected during any pandemic response, aside from the four basic core principles, would thus include five elements (Figure 1) –

***Figure 1: Ethical considerations***

***Rationing and Ethics:***

Rationing of resources occur at multiple levels which can be macro allocation – that occurs at the societal level and micro allocation – that occurs within healthcare setup like bedside decisions and ICU setups. Rationing also occurs due to general fiscal scarcity rather than absolute scarcity of a particular medical resource[7].

As COVID-19 outbreak is potentially life-threatening, the need to stick to the universal rules of ethics – justice, benevolence and distributive justice are of paramount importance. Here if something is missing, the victim would be losing nothing but their life. Hence, wealth, gender, caste, recommendations from higher authorities/political powers should be never allowed to intervene in providing medical services as all lives are equal unless otherwise justified[8].

To serve this purpose, the requirements of each and every stakeholder – from the healthcare service provider to other service providers to high risk population and the common public have to be considered in-depth before and a standard set of guidelines has to be developed. This may not be universally applicable as the situation varies from nation to nation and thus every nation has to be encouraged to develop its own guidelines and regulations.

This has to have two parts –

1. System-wide rationing
2. Bedside rationing.

System-wide rationing has to be implemented by the government officials which covers the entire process of rationing and bedside rationing is the one to be followed at the hospital level for the patients. Whenever resources are found scarce, physicians must be given freedom and encouraged to go for random allocation or lottery method.

The bedside physician knows better about the prevailing situation. In such critical situation any decision on rationing, whether to provide the ventilator to one person or the other – is going to put the physician under severe moral distress. Hence a blueprint on decision making would be easing the physician to make the right decision without undue stress.

However, couple of pragmatic considerations should be on check, like ‘how much the individual would benefit from a scarce resource?’ and ‘whether the particular patient is worst affected, so that he naturally qualifies for this care or facility?’. If a vaccine or other prevention medicine is available the frontline health workers and other high risk population should always be first. At the same time when allocating terminal care facilities like ventilators, only the true and most needed should be preferred.

Thus certain approaches could be considered as guiding principles for policy making like:

* Utilitarianism – To maximise overall benefits at societal level.
* Egalitarianism – Equal service and opportunity to every individual to have basic goods.
* Prioritarianism – Prioritising those who are considered worst off in the distribution of advantages.

These considerations would help in forming the basis for decisions on rationing of healthcare resources[7].

***Issues to be addressed:***

Issues with healthcare rationing arises from poor planning and implementation of unsuccessful policies. An informed social and political system needs to deliberately address healthcare policy and responsible methods of explicitly rationing care needs. Explicitly addressing the problem empowers society to mitigate the inequalities inherent in implicit rationing and enact policies more in keeping with societal goals.

There may be differences of opinions and disagreements based on how one views, values and judges about the prevailing situation and the demands. Some may prefer ‘equality’ while the other may go far ‘maximum benefit’. A feasible resolution to this issue could be achieved utilizing an economic tool called “Normative economics”, whereby priorities are assigned based on associative value judgement to benefit all[9].

Framing clear and deciding guidelines and make the allocation of resources fair and transparent would be the best protocol for long-term benefits when general public health is considered.

***Fair process of rationing:***

Transparency, inclusiveness, consistency and accountability are the four pillars that make the process fair and ethical.

* Being transparent with rationing is essential to keep the stakeholders of all levels, including the public well informed.
* Inclusiveness is another process which makes those who would be affected by the rationing process question or challenge and potentially revise the guidelines through an appeal or suggestion.
* Consistency means the process never deviates from the guidelines nor there would be is any favouritism even to one’s own family.

Accountability is the one which keeps those who make the decision stick to fairness of the process.

***Sectors of people and their priorities:***

People with different levels of exposure need different types of things. A Personal Protective Equipment may never be needed by an already infected patient.

1. **Frontline healthcare workers**

They are required to reach the maximum number of population and are encouraged to serve to help them remain infection free. Hence their requirements regarding protection must be given top priority and no quality compromise can be permitted. Also there is another risk which is, if they get infected and carry on their work before the knowing it, they would be the source of infection to many.

1. **Infected patients**

Their need depends upon the stage of disease progression, where those in the early stage and symptomatic, would need isolation and certain vitamins and minerals. Here equality is the only thing to be followed as pandemic response.

1. **High risk population/Containment area**

They are those who remain uninfected for the time being, but more likely to get. Thus they should be requested to stay indoors and follow precautionary measures. Though they would not need any health related care except immune boosting supplements and food, the authorities have to ensure to make arrangements that the basic needs are available at their doorstep.

1. **Services**
2. **Testing:**

Testing facilities and the capacity of a number of tests performed are definitely very much limited in many countries. Here the purpose of testing for COVID-19 has to be viewed from the public health angle. As there is no evidence-based medicine or vaccine available as of now, the more important purpose of testing a suspected person is to avoid the spread of the virus by isolating the positive ones than treating the person if positive.

Hence testing always must be prioritized to the people at greatest risk, especially those residing in high risk/Containment regions. If the particular suspected person is the one who could have contacted more number of people in the recent past, definitely he/she should be considered as the top priority.

1. **Management:**

As of now managing COVID-19 refers to providing supportive therapy to prevent or delay the complications, symptomatic management, rest and nutritional intervention. Severe patients are recommended by (ICMR) to be given hydroxy chloroquine and Azithromycin under medical vigilance. Here, in case of emergency management like ventilators, which are invariably scarce, the utility concept would be the best to follow by deciding who are expected to benefit from it and they should be given priority.

However, more attention and care have to be provided to the elderly, the ones with other comorbidities particularly chronic respiratory ailments and the risk factors for Non-communicable Diseases like smoking etc.,

1. **Prophylactic equipments /measures:**

There must be no compromise in providing masks, gloves, Personal Protective Equipments (PPE) to the Frontline healthcare workers. Rationing in these items should never arise and if any clinical physician refuses to go for duty in the isolation ward or attend a COVID-19 screening program, it must be considered quite ethical from their point of view. Even in providing masks and Sanitizers to those like minor service providers and police personnel, there should never be a question of rationing. Any small amount of rationing or prioritising here would be undoubtedly unethical.

**Conclusion:**

While the entire world is dreaming of abundance, which is also seen in many developed countries in a wide range of goods and facilities even including healthcare resources, a pandemic episode brings up a completely different situation. Any new pandemic and the essential response planning to manage the condition are unpredictable. With existing healthcare resources and infrastructure, rationing of healthcare resources cannot be completely avoided. But any rationing if implemented with certain basic ethical values, complete essential medical service to those who deserve, can be provided at ease.

Thus, the need of the hour is the practical ethical guidelines framed in coordination with the physician, Ethicist, and health care official and last but not least the common man, in order to bring out a fair policy with undeniable justice. Also, in the midst of infinite needs of healthcare resources whose availability is finite and varying in different countries, there is an immediate demand of country specific ethical guidelines in rationing of healthcare resources.

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