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Ethical Dilemma in Patients Selection during COVID-19 Pandemic in Indonesia: Choosing Who Shall Live or Die

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ABSTRACT

Debates surrounding the patient selection criteria for medical resources rationing have been sparked since decades ago. The arrival of COVID-19 has, once again, raised this debate. Due to its abrupt arrival, rapid infection rate, and unknown pathophysiology, COVID-19 has overwhelmed everyone, including healthcare stakeholders, causing a shortage of medical resources (e.g., beds, ventilators, oxygen supplies, drugs and medicines, and even personal protective equipment). Subsequently, resource rationing through patient selection is inevitable. This article comprehensively summarized the ethical dilemmas in patient selection during the COVID-19 pandemic, especially in Indonesia. We divide the dilemma into two major groups: the elderly and important people. We also present a scientific discussion covering the patients' selection approaches (first-come-first-served (FCFS)-based, severity-based, age-based, time-division/future prediction, equality-based, and random rationing). We reveal that there is no perfectly ideal approach for patient selection without sacrificing any factors. Since decades ago, patient selection policy has placed the elderly groups in an unfavorable position. The COVID-19 pandemic has, once more, showing us that elderly groups are still given lower priorities in the scarce medical resource setting. Lastly, until we are able to provide sufficient healthcare resources, this condition might be, and will always be, a bitter pill to swallow.

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Introduction

Since decades ago, the criteria for patient selection in medical practice has become a complex never-ending debate, especially from the bioethics perspective. Limited resources such as medical equipment, beds, drugs, and health workers have prompted this inevitable ethical dilemma. However, during the COVID-19 pandemic, this ethical dilemma has become more frequent [1-8]. The rapid and massive arrival of COVID-19, an infectious respiratory disease caused by a new unknown virus variant, has caused everyone, including stakeholders become overwhelmed.

Before discussing the patient selection dilemma in the pandemic, let's consider a general setting. Patient selection is an issue that has been discussed long before the first COVID-19 case was detected. Kilner, in his book (1990) [9], "Who Lives? Who Dies? Ethical Criteria in Patient Selection," stated that discrimination in patient selection is unavoidable when medical resources are scarce. In his book, he categorizes 16 patient selection criteria under five major considerations: medical (benefit, imminent death, and benefit quality, likelihood, and length), social (social value, resources required, favored group, and special responsibilities), sociomedical (supportive environment, psychological ability, and age), personal (ability to pay, random selection, and willingness), and experimental resources (science advancement). Kilner has proposed two general dimensions for consideration of each criterion: "person-oriented" and "productivity-oriented" dimensions. While Kilner's argument is sound and complete, his justifications for the criteria of patient selection criteria are not grounded in an explicit robust ethical framework [10]. In "Too Old for Health Care?" book (1991) [11], edited by Robert H. Binstock and Stephen G. Post, the authors discussed the ethical dilemma in the patient selection that is derived from age-based rationing. Since more than two decades ago, clinical practice has proven that patient selection policy is often unfavorable toward senior patients. Patient selection can actually be avoided (or at least minimized) if we provide sufficient medical resources. Instead of choosing one over two patients, we can rather admit both without sacrificing the quality of care. Thanks to economic development, scientific advancement, and better resource management, we might have been able to reduce the incidence of patient selection in the last decades. However, the COVID-19 infection wave has disturbed this convenience and, thus, revived the ethical dilemma.

Because of COVID-19's rapid spread, many hospitals and medical facilities around the world suffer from a resource deficit. At its peak, the COVID-19 infection rate reached more than 3.85 million cases/day worldwide, causing almost 17,000 deaths/day at its highest [12]. In Indonesia, the infection rate peaked at almost 65,000 daily cases on 16 February 2022 [12], while the fatality rate peaked at more than 2,000 daily death on 27 July 2021 [12]. During this

period, the healthcare system in Indonesia was in chaos, lacking vacant hospital beds, medical equipment (e.g., ventilators, oxygen supplies, drugs/medicines, etc.), personal protective equipment (hazmat suits, masks, etc.), and even the healthcare workers themselves. Indeed, the scarcity of the mentioned resources caused an inevitable ethical dilemma: patient selection. In this manuscript, we summarized the ethical dilemmas in patient selection during the COVID-19 pandemic, especially in Indonesia. We divide the dilemma into two major groups: the elderly and important people. We also present a scientific discussion and argumentation derived from the dilemmatic situation, viewed from the bioethicist perspective. While this paper was written with the COVID-19 pandemic consideration, it is possible to extend the contents of this manuscript to broader circumstances.

Finally, the remaining of this paper is organized as follows. In Section 2, we discussed medical triage in the COVID-19 pandemic setting. Sections 3 and 4 present the two patient groups that introduce the majority of patient selection dilemmas during the pandemic, namely elderly patients and important patients, respectively. In section 5, we present the discussion covering the patients' selection approaches (first-come-first-served (FCFS)-based, severity-based, age-based, time-division/future prediction, equality-based, and random rationing). Lastly, we present short remarks and the conclusion of this study in Section 6.

Medical Triage in COVID-19 Pandemic

In general, medical triage prioritizes (1) patients who are likely to die if appropriate medical resources are not provided and are likely to survive with them. (2) patients who might be able to survive even if they are not given related medical resources, and (3) patients who are unlikely to survive even if they get adequate medical resources [13]. However, general medical triage during a pandemic may no longer be adequate. This is because many patients can be categorized into the first group during the pandemic, especially in its early stage. Due to the unknown COVID-19 pathophysiology, it is also difficult to accurately assign the patients to the second and third groups. Therefore, new detailed criteria should be carefully designed to satisfy the medical triage in the pandemic phase such that more people can be helped even with scarce medical resources. Without clear triage criteria to assign patients with a similar prognosis, medical workers might face confusion. Learning from Italy, a pandemic triage is proven effective in saving more lives with limited medical resources [14]. In the US, however, a debate has been sparked around the age-associated criteria for COVID-19 hospital admission, following the pre-pandemic protocols incorporating age-related factors, including scoring systems considering near-term/long-term life expectancies beyond acute diseases [15]. In 2021, a survey was conducted to observe more than 30 approved pre-pandemic protocols between 2007 and 2020 [16]. Among those protocols, factors such as 1-5 life years, fair innings,

total life years, and children over adult patients' paradigms are frequently included [16]. These protocols, supported by the practical evidence, have essentially put children's age as the most prioritized age group, followed by adults' age, and lastly, seniors' age [17].

First Dilemma Group: Elderly Patients

Long before COVID-19 occurred, bioethical debates surrounding the use of age and age-related standards for allocating scarce healthcare resources date to the 1980s, when there was a growing recognition of the implications of rapid population aging on healthcare utilization [18]. In general, the metabolic rate and recovery ability of elderly patients is certainly lower than that of younger patients. This also applies to the COVID-19 pandemic. For illustration, as depicted in Table 1, the mortality rate of patients over the age of 75 is much higher than that of the younger age group [12]. If exposed to the SARS-CoV-2 virus, older people are far more likely to become seriously ill, requiring hospitalization and intensive medical care. Across the board, studies show that older age is associated with higher case of fatality rates for COVID-19 patients admitted to hospitals or intensive care units. This certainly has the potential to cause an ethical dilemma.

Table 1. Age statistics of COVID-19 deaths from New York City as of May 13, 2020 [19].

AGE	Number of deaths	Share of deaths	With underlying conditions	Without underlying conditions	Unknown if with underlying conditions	Share of deaths of unknown + w/o conditions
0 - 17	9	0.06%	6	3	0	0.0002
18 - 44	601	3.90%	476	17	108	0.008
45 - 64	3,413	22.40%	2,851	72	490	0.037
65 - 74	3,788	24.90%	2,801	5	982	0.065
75+	7,419	48.70%	5,236	2	2,181	0.143
TOTAL	**15,230**	**1**	**11,370 (75%)**	**99 (0.7%)**	**1,551 (24.7%)**	**0.253**

*Underlying illnesses include Diabetes, Lung Disease, Cancer, Immunodeficiency, Heart Disease, Hypertension, Asthma, Kidney Disease, and GI/Liver Disease [20].

Considering that the elder group is more vulnerable, it is possible that they are the majority of patients coming to the hospital. At the same time, the younger group infected by COVID-19 decided to stay at home doing self-treatment since they experienced only mild symptoms. With the limited quantity of respiratory devices and other medical resources, what is the most ethical yet producing the highest outcome policy in this circumstance? Suppose we should refer to the medical triage. It is difficult to determine whether these elderly patients belong to either group 1 or group 3. This is because the COVID-19 virus is still relatively new, so the pathophysiology and the fatality rate of the disease are challenging to predict. At the

beginning of the pandemic, physicians could only guess and predict what impact the virus would have on the human body. In fact, knowledge regarding COVID-19 symptoms was also very limited in this phase. In addition, due to the natural vulnerability of adult patients, their health conditions can very easily get worse in a short period of time. Therefore, patients could abruptly move from the first triage group to the second and third, or vice versa. Apart from those factors, virus mutations, vaccination rates, vaccine efficacy, and knowledge developments in the caring/treatment of COVID-19 and the virus itself have added to the difficulty of setting a clear standard of pandemic triage.

Second Dilemma Group: 'Important' Patients

Medical resources shortage during the pandemic has brought another ethical question: What if one patient is more important than the others? First, there are no clear guidelines to define that one person is more important than the others [21]. Still, some people are given higher priorities over others when it comes to healthcare intervention. To provide a clearer illustration, let us give an example. Suppose that two people are coming to the hospital; one is the city's mayor, and the other is just an ordinary citizen. Unfortunately, there is only one bed left in the hospital. One can argue that we shall prioritize the mayor over the ordinary citizen because the mayor has a notably bigger responsibility and contribution to society compared to the ordinary citizens, meaning that sacrificing the mayor's life will cause a bigger loss than the ordinary citizen's life.

However, this argument is flawed. By using the same argument, the citizens with higher academic degrees, job positions, and financial powers will more likely be favored over the second-class citizens. This is because second-class citizens are typically less likely to be seen by society as 'important' people. As a result, the gap between those two citizen groups will only be wider. Moreover, should we allocate part of the already scarce medical resources to anticipate if the 'important' people are infected by the virus while leaving the others in need to die?

Another flaw of the abovementioned argument is that we don't have a clear standard on who should be considered important and how we can value their importance. For example, is a Nobel winner more important than a local public figure? What about singers, artists, and other art workers? One thing for sure is that in the pandemic situation, healthcare professionals and other frontline workers are considered more important for the obvious reason and, thus, receive a higher priority for the scarce medical resources (e.g., vaccines, personal protective equipment, etc.) [22].

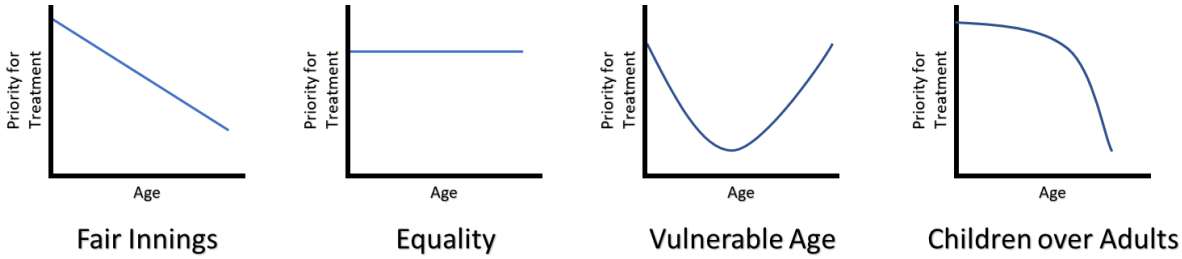


Fig. 1. Four principles of medical resources rationing.

Discussion

During the COVID-19 pandemic, medical stakeholders are faced with a major dilemma: Which approaches should they take in rationing medical resources? In this section, let us discuss the available options along with the pros and cons behind them. Before that, it is worth noting that COVID-19 is a new disease whose pathophysiology remains unclear for several months (or even years). Moreover, the coronavirus itself always mutates over time, even until when this paper was written. Therefore, predicting its infection, severity, and fatality rates is difficult, especially during the early and peak pandemic period. In summary, there are at least four principles that can be leveraged in medical resources rationing during the COVID-19 pandemic (see Fig. 1). The principles include fair innings, equality, vulnerability, and children over the adult. These principles are further covered in the later part of this manuscript.

A. First-come-first-served (FCFS)-based rationing

In an ideal case where there are unlimited medical resources, an FCFS basis becomes the most suitable approach. However, even before the pandemic attacks, the FCFS approach could not always be applied, especially in a medical case where the resources are limited (e.g., PCI, ICU). During the pandemic, FCFS was applied at the early stage of the pandemic. No matter their age, severity, or 'importance' toward society, COVID-19 patients are always given the best available resources. However, along with the rise of the virus infection, FCFS is obviously, not feasible anymore.

B. Severity-based rationing

Perhaps, severity-based rationing is the fairest yet practically feasible option for patient selection during the COVID-19 pandemic. This approach is in accordance with the standard medical triage, prioritizing patients with higher survival probability and higher needs for medical resources. A patient whose survival chance depends on the appropriate intervention should be prioritized over those not at fatality risk without it or those with lower survival chances regardless of retrieving appropriate interventions.

In addition, this approach averts possible age discrimination. Although comorbidities and severe illness are usually associated with the elderly, this does not necessarily mean that elderly patients are always having lower survival rates than younger ones. It is feasible to predict future medical outcomes more accurately and eliminate age discrimination by directly referencing characteristics like frailty, comorbidities, or life expectancy. For instance, during the COVID-19 epidemic, the National Institute for Health and Care Excellence in the UK (but later amended [23]) and a multi-society task committee in Germany initially supported frailty intensive care assessment instruments (such as the Clinical Frailty Scale) in 2020 guidelines. [24] As noted in [25], persons of any age can present with frailty, and people who are elderly are not always frail. Hence, the Clinical Frailty Scale is less likely to result in ageism.

Yet, this approach is sub-optimal. Using severity level as a basis of the patient selection puts marginal and vulnerable populations (e.g., low-income families, racial minorities, etc.) at risk. For instance, COVID-19 tests such as a rapid antibody, an antigen, and a PCR test during the pandemic's early stage are very expensive. At the beginning of 2020, the PCR in Yogyakarta costs as much as Rp 2,500,000/test [26], while the standard minimum salary at that time is 2,004,000 rupiah [27]. Often, the amount of this standard minimum salary should be allocated for a family of four (or even more), meaning that each family member receives approximately Rp 500,000/month (or even less). Obviously, the cost of PCR tests is out of their range. When a family member is suspected to be infected with the virus, they rather neglect the symptoms until it becomes too severe. It is also often that these families live in small crowded unhygienic areas, causing higher virus infection and complications risks. In summary, families with low income are living their life with significantly lower health standards than others. In addition, these families are afraid of COVID-19 stigma and prejudice at the beginning stage of the pandemic. Moreover, in many cases, these families already feel that they might get COVID-19 but decide to ignore it since once they are confirmed to be infected, they might not be able to work and provide financial support for their families. Only when the disease became too severe, they decided to come to the clinic. Unfortunately, at this stage, there is a higher chance of them being rejected due to the severity-based rationing approach.

C. Age-based rationing

During the pandemic, an age-based rationing approach has been employed, whether explicitly or inexplicitly, in several countries around the world. As abovementioned, elderly patients are consistently having higher COVID-19 severity than younger patients. Taking into account degenerative diseases, lower metabolism rates, and accompanying comorbidities, elderly patients are more likely to be severely ill when getting infected by the virus. COVID-19 data worldwide have also consistently shown that COVID-19 is likely to produce a worse

outcome in elderly patients. Therefore, many authorities decided to implement age-based rationing in hospital management. One of the main justifications for this approach is what we so-called "fair innings" principle [28-30]. The fair innings principle suggests that it is not impermissible to give lower priority to elderly care than care for the younger ones. This view was built on the basis that the elderly have experienced a long enough life in the world compared to the younger generations. In this view, we can argue that surely the elderly have experienced three stages in their lives: young, adult, and elderly; while the younger ones have only experienced one stage (i.e., young), and there is no guarantee that they can experience the other two stages.

Following similar reasons, Miller in [31] argues that age-related rationing of ventilators for COVID-19 patients is fair and reasonable. The author proposes an age threshold of 70/80 for using scarce mechanical ventilators, with palliative care offered as an exchange for patients older than that. Miller argues that, anyway, it is expected that not many years with sufficiently good health and life functions are left for those mentioned patients.

Philosophers have tried to justify this fair innings principle based on various grounds. However, as fair as it sounds, the age-based rationing approach is not without any dilemma. For instance, at what age should we define the threshold? Let us assume that we use 60-year-olds as the threshold of age-based rationing. Following this fair inning principle, it is rather easy to decide whether a 30-year-old patient should be prioritized over a 70-year-old patient. But what about the consideration between a 30 and a 40 years-old patient? Both of them are far below the age-based rationing threshold. Moreover, age-based rationing will have another dilemma if faced with the life expectancy of the patients. For example, given that there are two COVID-19 patients with similar severity, each of which is aged 35 and 55. Both of them are expected to pass away if not given the appropriate medical resources. However, both patients have similar life expectancies: 10 years. Which patients shall we prioritize?

Fair inning principle does not account for how the subjects have spent their lives so far. Suppose we have two COVID-19 patients, each aged 35 and 70 years old. The patient aged 35 is implementing a healthy lifestyle, while the 70 one is a heavy smoker. However, patient aged 70 has received racial discrimination throughout their life. In this case, their entire age might only be half as fair as the 35-year-old's life. In another example, what if instead of suffering racial discrimination, the 70-year-old patient has stayed in jail for 40 years of their 70? Have they had fair innings? This means that they had only lived their life for 30 years, which is less than the patient with the age of 35. During the COVID-19 pandemic, this illustrative case might actually have happened. It is reported that many jails in Indonesia are overcrowded [32], making it sufficiently difficult to maintain distance and minimize COVID-19 infection. In [33,

34], it is revealed that the number of COVID-19 transmissions in jails in Indonesia is unsurprisingly high.

A high COVID-19 infection rate has been associated with the population with high mobility. Hence, numerous governments have implemented a mobility restriction policy to suppress the infection rate. On the other hand, elderlies are generally less mobile, meaning that if they got infected by COVID-19, this might be because their younger families got infected first from the outside environment, then carried the virus home. Age-based rationing indeed is unfavorable for elder COVID-19 patients. Another defense behind this age-based rationing is that, even if elderly patients survive COVID-19, later on, they will more likely give a higher burden on the national healthcare cost compared to younger patients. This is because elderly patients are usually accompanied by degenerative diseases and, often, comorbidities. In addition, after COVID-19 recovery, younger patients within the productive age will likely go back to work and contribute to the national economy, whereas elderly patients will only sit at their retirement houses. As harsh as it sounds, this is the current reality in our world order. In graying societies where the number of elderly is growing, this kind of consideration may be significant toward their economic stability.

For healthcare workers, it is rather hard to deliver the news to the family, explaining that their beloved family member will not survive COVID-19 since the hospital lacks resources and their family member is too old to be given such resources. In Indonesia (and many other countries), this might get even harder since societies cherish and honor the elderly. In fact, the respect retrieved by someone in Indonesia appears to be attributed to their age, meaning that someone will only gain higher respect when they are older. Moreover, the cultural and religious values hint that we are obligated to provide our best care and support to the elderly (especially our parents, grandparents, etc.) since they have given us a lot throughout their entire lives. Moreover, many still believe that not providing the best medical support to their beloved patient means giving up their lives (i.e., polite murder). To add complexity, it is highly possible that the younger family members are carrying the virus and infecting the elderly (due to the aforementioned mobility causes). Because of this reason, they might carry the guilts for their entire lives.

Explicitly or inexplicitly, age-based rationing (together with severity-based rationing) has been implemented in many countries worldwide prior to and during the pandemic. For example, the Italian Society for Anaesthesia, Analgesia, Resuscitation, and Intensive Care published guidelines for distributing intensive care therapy using an upper age restriction for ICU admission [35]. Following the aforementioned, age was regarded as a prognostic indicator of poor outcomes and was depended upon in the US when crisis care protocols were

implemented at the state level with the aim of saving as many lives as possible, despite other factors associated with higher death rates, such as a patient's race and ethnicity, skin color, and sex were expressly prohibited by law [36]. To minimize the incidence of these rationing during the pandemic, however, many authorities decided to implement an elderly-friendly COVID-19 policy, such as prioritizing primary vaccination and booster shots for the elderly over the younger populations [37].

D. Time-division/Future prediction rationing

This approach allows healthcare facilities to hold unused COVID-related resources (e.g., beds, ventilators, etc.) for later use for the most suitable patients with longer and healthier life expectancies [38]. This approach contradicts the typical medical triage. However, if only considering the possible intervention outcomes, this approach might enable the highest effectivity per medical expense. This is because the limited resources are carefully assigned to the patients that are more likely to have longer and healthier life expectancies. During the pandemic, this approach has reportedly been implemented. For instance, in Belgium, several hospitals kept a portion of their beds unused while older/'unsuitable' patients were turned away [39]. These preserved capacities are supposedly being used by younger and 'suitable' patients who might come later. One reason behind this approach is that hospital facilities should always be prepared for future COVID-19 explosions. The hospitals might preserve their resources for the most suitable patients. The patients' criteria can be defined using their age, severity, and even their 'importance' and contributions toward society. However, this approach leaves one big ethical question: Should we keep the medical resources unused while we leave unfortunate patients to death? Moreover, COVID-19 is a new virus with unknown pathophysiology, making its infection rate rather difficult to predict precisely. In addition, the virus mutations, stakeholders' new policies, vaccination rate, vaccination efficacy, and many other factors contribute to the difficulty in COVID-19 fatality prediction. For instance, while from February 2022 – March 2022 in Indonesia, the infection rate of COVID-19 was highest, the fatality rate was far less than the same duration from June 2021 – July 2021 [12]. Hence, in this case, it is unfair to preserve the medical resources for later periods with less COVID-19 severity while many patients are dying in the previous period.

E. Equality-based rationing

This approach provides equal opportunities to patients regardless of their gender, religion, age, severity, or whether they are important people or just ordinal ones. On the surface, this approach looks perfectly fair. Indeed, in the utopic world with plentiful medical resources, equality rationing becomes the fairest approach with similar fairness as the FCFS

principle. However, equality rationing obviously cannot be implemented, especially in the COVID-19 case. Moreover, this principle contradicts ordinary medical triage, causing unfairness to the patients with a higher chance of recovery.

Another proposed principle of equality rationing is that each person is given the same medical resources to be spent during their living period. Once that person reaches the maximum expenses, they are no longer having the right to receive an additional medical resource. Daniels, in his book [40], for instance, considers the distribution of scarce medical resources beyond a person's lifetime and contends that, in order to increase the likelihood that they will live to old age, a reasonable person would favor having access to such scarce resources when they are young, even if doing so means they will have less or no access to them when they are old. However, anyway, we believe that this approach is quite absurd and impractical in the pandemic setting.

F. Random rationing

We believe that this approach is absurd and irresponsible. Instead of making a responsible decision to create the fairest possible policy, this approach leaves the fate of the patients to the 'higher power'. Every decision on patient selection is made through the 'random' lottery. The defense of this approach is that: "Let nature (or God) decide. If the patient is destined to die, then let it be".

A part of this approach was also described in Kilner's book [9]. Kilner delivers and justifies his own set of three-level hierarchically organized patient selection criteria in the last chapter of his book. First, in order to be eligible for care, patients at the threshold level must meet both the medical benefit and the willingness-to-accept-treatment requirements. The resources in question are to be distributed at the following level: first to individuals who meet the impending death criterion and then to those who meet the specific duties and resource requirements criteria. Finally, if resources are still available, they must be allocated at random—more particularly, by lottery—to the remaining qualified patients.

Remarks And Conclusion

The peak of the COVID-19 pandemic, hopefully, has passed. Now, it is the right time to evaluate what was right and what was wrong in our approach to mitigate the pandemic. As the proverb has said, "A lesson learned is a lesson earned". Thus, no same mistake should be made in the future. There are many factors in the pandemic mitigation that we need to look back and evaluate, including the inevitable patient selection and the ethical dilemma behind it.

Following what we have presented and discussed in this paper, there is no perfectly ideal approach for patient selection in the pandemic setting without sacrificing any factors.

Since decades ago, patient selection policy has placed the elderly groups in an unfavorable position. The COVID-19 pandemic has, once more, shown us that elderly groups are still given lower priorities in the scarce medical resource setting. Explicitly or inexplicitly, numerous authorities worldwide have prioritized younger COVID-19 patients over older ones. One explicit example is that back in the pandemic peak, the mayor of Bergamo stated that the pandemic had "forced the doctors to decide not to intubate some very old patients," meaning abandoning them to their fate [14].

However, this situation is not without reason. Some fair justifications, such as fair innings; total live years; severity, comorbidity, vulnerability; and healthy life expectancy, as well as harsh justifications, including financial burden and productive age, have consistently put the elderly patients to the less favorable group. Until we are able to provide sufficient healthcare resources, this situation might be, and will always be, a bitter pill to swallow.

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