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Review Article

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A Political-Health Emergency: Ending Social Tragedy of Organ Shortage

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Introduction

The transplantation of organs and tissues became a medical reality in the 1950s. Fundamentally, it generated the possibility, never achieved except by haemodialysis in the case of the kidney, to solve end-stage organ failure.

Without a doubt, this treatment differed from the classic practice. In this new medical action, the fundamental therapeutic factor is the human being, who can save lives by donating their organs, essentially after death. This health likelihood has generated a metaphorical syllogism: the end of one life can save another, but only if society accepts organ donation. Unfortunately, this paradoxical situation is responsible for a social health crisis: the death of thousands of patients because of organ shortage.

Ethical-moral concepts specify that social solidarity and altruism govern the acceptance of donors and recipients. Unfortunately, these principles, and even the philosophical requirements of this new medicine, have not yet succeeded in inducing in society an adequate approach towards organ donation.

Over the centuries there have been some surprising predictions regarding transplantation. For example, a painting by Fra Domenico in 348 BC, representing Saint Cosmas and Saint Damien, amputating a cancerous leg from a patient and replacing it with another, resected from an Ethiopian who had just died. It is significant to remember that this type of transplantation was only performed at the end of the 20th century [1, 2]. Hundreds of years later, the "legend" became reality, turning death into life through death itself.

Proposals Made to Date to Resolve the Organ Shortage

The increased mortality of patients awaiting transplants due to the crisis of organ shortage requires the implementation of comprehensive and unequivocal policies and a maximum effort to solve them [3].

As a prologue, as regards social justice and equity in health, it is of interest to evaluate conceptions in this regard proposed over time [4, 5]. In the Renaissance, different authors (Thomas More, James Harrington, Johann Valentin Andreae) signified on injustice and inequality in health and welfare, suggesting the need to change political-social values. Their main ideas were free health services for all the people who needed them, supporting individual autonomy and challenging abusive government policies [4-7]. Hundreds of years later, these issues remain problematic and must be discussed at the health policy level. Inequalities in social security and the legal instruments responsible for them require urgent harmony between governments and society [6-9]. Concerning current suggestions to modify organ shortage, we will analyse:

1. Legal and ethical changes
2. Modifications in medical behaviour
3. Social and professional education
4. Economic aspects

Legal and Ethical Changes: Organ donation is linked with altruism and solidarity. From a legal point of view, it requires the positive consent of the donor or their family (Opt-in) [10, 11]. To achieve social credibility, informed consent requires a comprehensive public education. Medical and institutional information on what donation means is essential for people's well-being [12].

In response to the organ shortage crisis in France in 1976, the Caillavet law of presumed consent was passed. This law states that all people are donors unless they have registered their refusal in an official document Refusal can also be instigated by the family. In 1979, the Spanish presumed-consent law was enacted. This law requires the declaration of brain death by three doctors. If opposition to organ donation has not been officially registered, every individual is considered a donor [13]. A system requiring explicit consent is called Opt-in; the one that requires registering a refusal is Opt-out [14].

Many countries have subsequently adopted or discussed this legal alternative [15]. The effectiveness achieved by the adoption of opt-out as a legal process for organ donation is controversial [16]. It has been considered that patient waiting list progression and mortality are also related to educational, socioeconomic, and religious factors [17].

Presumed consent, with respect to the priority given philosophically

to essential ethical-moral paradigms in medicine such as autonomy, an expression of the right of the competent patient to make all their own medical decisions, has been considered controversial [14].

The ethical conception of autonomy and organ donation is based on utility, justice, and respect. Organ donation requires the recognition of personal decisions, independent of coercion or interference from others. This act must not harm anyone. These concepts are essential for people's safety. Generating legal or social strategies that seem to conflict with these concepts must be preceded by clear and defined social education programs in order to ensure fair social acceptance [18].

Caplan et al. consider the urgency of strategies maximising the consent of potential donors to allow the preservation of lives. The authors highlight the need for a socio-political solution that respects the ethics and principles of organ donation [19, 20].

For his part, Siegler suggests that the living donor should be considered an unlimited option for organ donation. Complementing this unique proposal, he suggests education campaigns by the state recommending that live donation is a bioethical response to the emergency [21]. Likewise, some authors, evaluating that the US has not been able to resolve its organ shortage crisis, consider that this situation will persist unless the possibility of providing financial incentives for donation is legally considered [22, 23].

Evaluating the ethical-legal resolutions generated in the US to initiate a change in the social behaviour towards donation, the declaration that organ donors are heroes is interesting. This statement, valued in international forums, deserves analysis. Organ shortage is a global problem generating high mortality, and solidarity and altruism are the essential principles of donation. Inadequate social behaviour has been defined as the main cause of this crisis. Shouldn't the refusal of a relative to donate the organs of a deceased loved one, an action that does not affect their integrity, be included in the critical legal definition of abandonment of persons? Wouldn't assessing organ donation as a heroic act oppose this interpretation? [24-26].

The WHO specifies that it is the responsibility of states to guarantee the availability, accessibility, acceptability, and quality of medical care by adopting legislative, administrative, budgetary, judicial, and other measures to fully guarantee the right to health. The right to health has been the subject of multiple constitutional debates in search of the benefits of public well-being. However, the right of rescue of patients awaiting organ donation to live has not been analysed in its legal aspects [27, 28]. Ethically, transplantation is feasible when altruism and ignoring the barrier of the donor's bodily mutilation lead to the offer of organs to save the lives of others [29]. Organ allocation policies that do not consider justice and equity are unacceptable. It is essential to promote organ donation and transplantation but respecting the rights of donors and recipients is essential to combat organ trafficking [30].

Any legal change made to protect those who require a transplant to live must clearly affirm that a patient's life will end without an organ from another human being. The political responsibility of the states certainly requires that drastic measures be taken to end the crisis of organ shortage. The rights of donors and recipients constitute an exceptionally innovative legal challenge, and a new conception of law will certainly be required in this context to improve this serious health crisis [31].

Modifications in Medical Behaviour: Because of the organ shortage, modifications must be made to the classic medical criteria for accepting donors. The fundamental principle in the case of living donors was the safety of the donor and the recipient. This is how the concept of "primun no nocere" (do no harm) was respected [32]. However, the relentless death of patients forced new donor acceptance criteria that, although they do not strictly comply with the established criteria, give a real possibility of avoiding death [33]. Two criteria are frequently accepted: a) Donors in cardiac arrest, used before the "brain death" diagnosis (DCD); b) Donors with non-serious clinical and/or infectious pathologies (ECD). These criteria were subsequently applied to living donors [34].

It is worth mentioning that the most effective solution, in terms of prolonged results, has been the paired kidney donation (KPD) suggested by Rapaport in 1986 [35]. These new donor acceptance criteria have improved the survival of patients on waiting lists but have failed to significantly overcome the organ shortage crisis [36].

Social and Professional Education: One fundamental cause of the inadequate social response to donation is the poor results achieved by current education programs at both social and university levels [37-39]. Social unawareness is considered a predominant barrier to the act of donating. However, recent studies have shown that this "cognitive" inhibition is not at the core of denial. "Non-cognitive" factors – fear of death and mutilation and suspicion of medical conduct, as well as erroneous religious assumptions – have been evaluated as the main causes of the organ shortage [40, 41].

The slogan: "A gift of life", which dominates social education, has been suggested to be insufficiently effective [42]. The motto is an expression of altruism and solidarity. In this sense, the concept of altruism has been considered a challenge in its application to organ donation. The social understanding of the act of donation has been evaluated according to the need to define the concepts of altruism, gift, and reciprocity in organ donation in education policies [43-45].

In reviewing education programs, Olson's concept of analysing individual behaviours when the protagonist does not clearly perceive that reciprocity means sharing the individual benefits of their participation in the collective success of social actions is of interest [39, 46]. These are the main notions suggested so far in the search for greater efficiency in social education programs.

It is also of interest to mention the openness of schools to educate students on the subject of organ donation. The first message addressed to school children, "Transplants and the Organ Bank", was published in an Argentinian children's magazine in 1979 [47, 48].

R. Shoenberg, an American educator, highlighted education on the value of organ donation as a new option [49]. After these pioneering works, several authors also stressed this educational possibility [50-52]. However, unfortunately, a defined global educational alternative is not currently being considered at lower school levels.

Another important gap is the still-deficient university and higher education on transplantation and donation [37, 53-58].

Economic Aspects: Health and safety policies have been subject to multiple ethical-moral and philosophical considerations. Daniels maintains that inappropriate social policies are responsible for the injustices that occur in populations not protected by states. States have an ethical-moral duty to offer total equality and safety for all people, regardless of their educational, social, and economic levels [59].

In 1984, NOTA (National Organ Transplantation Act) defined the standards for the development of transplantation in the U.S. One of the main rules of the law is the prohibition of assigning a monetary value to an organ. Likewise, discrimination in access to donor organs, based on the socioeconomic status of the potential organ receptor, is also clearly prohibited by law [60, 61].

These indications regarding the economics of transplantation deserve to be considered. It is unacceptable that people not fully covered by social security do not have the same opportunities to benefit from a transplant. Currently, this situation is clearly defined in the US where patients with inadequate social protection have access to immunosuppressive drugs for only three years. This is clearly inadequate and represents the inequalities in the health system for organ recipients. The ethical-moral rationality of this state policy requires urgent political and scientific discussions [62, 63]. The state has the responsibility to solve this crisis considering that donation is the only way to save the lives of those who require a transplant. Nowadays, the right to health in relation to the organ shortage must be extended to the donors as well the recipients [31].

It is also necessary to highlight the recurrent controversial proposals made in the last decades to grant economic incentives in the case of both living and deceased donors [23, 64].

Alternatives Seeking to End an Unfair Death

Current statistics show that proposed solutions to organ shortage have not been sufficiently effective. In the search for options to solve this crisis, we will analyse possible alternatives concerning:

1. Legal-ethical changes
2. Medical behaviour
3. Social and professional education
4. Economic aspects

Legal-Ethical Changes: Significant modifications of consent to donation and other types of legal proposals have not been made. Altruism and solidarity have also been considered problematic with respect to their application in organ donation. Likewise, in terms of its involvement in people's understanding around donation, the reciprocity concept must be evaluated. Clearly defining these principles should effectively engage the public in the debate on living and deceased organ donation [44].

The right to health is a topic of discussion and greater social protection is being sought. However, the right of rescue of patients waiting for organ donation to save their lives has not been legally determined. The WHO has specified that states should guarantee the availability, accessibility, acceptability, and quality of medical care by adopting legislative, administrative, budgetary, and judicial measures to fully guarantee everyone's right to health [27].

The drafting of new principles that imply autonomy in the development of a national policy for allocation of scarce organs for transplantation should be the responsibility of those who study formulas for solving this crisis. Decision-makers must consider the urgent need for conceptual ethical-legal modifications that ensure real changes, though they may be complex, in this acute social crisis [18].

The duty to rescue is a civil obligation when one party does not assist another party with possible injury or at risk of death. Customary law seldom formalises sanctions for those who do not comply with the duty to rescue those in danger [65].

In the face of the organ shortage emergency, it is the responsibility of the state to generate radical ethical-legal solutions that respect the concept of reciprocity in donations and thus solve this grave crisis [31].

In some countries, there is a legal requirement for citizens to help people in danger, unless doing so puts themselves or others in danger. It has been legally defined that providing assistance to a person at danger of death, when rendering can be done without prejudice, constitutes a legal responsibility [66]. Argentinian legislation on the "abandonment of persons", articles 106 to 108 of the Argentine Penal Code, includes as a provision: "A person who endangers the life or health of another, either by endangering a person or abandoning his luck ... will be sentenced to between 2 and 6 years" [65].

That patients are dying due to a lack of organs is a social issue. The refusal to donate the organs of a deceased loved one, if the act that does not affect the integrity of the donor, should be included in the legal definition of abandonment of persons? [24-26]. Globally, the significant growth of the number of patients on waiting lists and the increasing wrongful death of many of them have not changed. This crisis requires a well-founded urgent response from those responsible for public health.

If with the enunciated proposals, there is a risk of public conflict with the expressed concepts of autonomy, clear and defined social education programs must be implemented to ensure that the new policies are consistent with a consciously accepted understanding.

Medical Behaviour: The organ shortage and its cruel consequences have led to modifications, mainly concerning the criteria for accepting donors during or after life. This is how the concept of "primun no nocere" (do no harm) to the patient was partially respected with the option of avoiding death on waiting lists [33, 67].

Although these new donor acceptance criteria have led to some improvement in the chances of patient survival while on the waiting list, unfortunately they have not been sufficient to significantly overcome the current medico-social crisis caused by the scarcity of organs [34].

In this situation, the prevention of diseases potentially responsible

for multiple end-organ failure requiring transplants takes on importance in the hierarchy. Prevention programs, like "Discover to live", should establish defined periodic monitoring of clinical/humoral manifestations of kidney, liver, cardiopulmonary, and obesity risks. The accentuation of media campaigns highlighting the dangers of toxic habits, tobacco, alcoholism, and drugs should be carried out frequently.

It has been argued that medical strategies to reduce this social crisis should be aimed at specifically suppressing the excessive activation of inflammatory response, preserving early immune competence, and stimulating normal antimicrobial defences, thus reducing the factors that lead to the initiation or development of evolutionary lethal processes [68].

Social and Professional Education: The mediocre result achieved by the education programs currently in force, at both social and university levels, has been stated as an essential cause of the inadequate social response to donation [37-39].

Social ignorance (cognitive factors) of the vital requirement of transplants was considered the predominant barrier to donation. At present, fear of death and mutilation, and doubts at the time of the donation request as well as misunderstandings of religious faith (non-cognitive factors) are considered essential elements leading to the denial of this crucial socially significant act [40, 41].

In the review of educational programs, it is important not only to consider the value of non-cognitive factors but also the concept of reciprocity mentioned by Olson, which regards individual behaviours in social actions when the protagonist does not clearly establish the individual benefits of their participation in the collective success [46]. The central slogan in social education, promoting solidarity and altruism, is "Organ donation, a gift of life". However, it has been argued that it is necessary to evaluate the concepts of altruism and reciprocity and their implication in the donation decision as their definitions in terms of organ donation are ambiguous [44].

While the initiative to introduce basic concepts of organ donation and transplantation in schools has been highlighted by various studies, it has not been implemented globally [51].

We have already mentioned the current educational proposals to combat the organ shortage crisis. Current statistics show that the desired solution has not been achieved. Clearly, a change in organ donation education programs should be discussed. For a better social response to the barriers to donation, we have suggested the inclusion of the following concepts in education programs:

- Organ shortage is a health emergency.
- Organ donation is not giving life; it is sharing life.
- The body after death is a unique source of health for all.
- Sharing the body after death should be a tacit social agreement for the common welfare of society.
- Throughout our lives, we are all potential recipients of organs and tissues.
- All monotheistic religions accept organ donation after death [50].

These concepts must be properly structured for education at the social, school, and university levels. The full and positive recognition of the importance of this change by teachers at all levels will be fundamental to a positive result.

As has been done to address the ethical and legal problems related to donation and transplantation, institutions that govern education and health policies worldwide should organise international meetings on education in organ donation. The participation of medical experts, political decision makers, and representatives of the predominant religions is crucial for the development of new education plans on organ donation and transplants, adapted to the current political-social and socioeconomic crisis that organ shortage has created in the world [26, 30, 69].

Economic Aspects: Inappropriate socioeconomic policies are responsible for injustices concerning people not protected by social security. States have the obligation to offer safety and health equally, regardless of their educational, social, or economic level [60].
In 1984, in the US, the National Law on Organ Transplantation (NOTA) outlined guiding principles of transplantation. One of the main rules was to prohibit the assignment of a monetary value to an organ. Likewise, discrimination in access to transplantation based on socioeconomic levels is clearly prohibited by law [61, 62].

Nevertheless, these rules have not been strictly enforced in the U.S. For example, immunosuppressive drugs, essential for the proper functioning of a transplant, are only provided for three years to patients not protected by current social security [62, 70]. This situation represents the inequalities in the health system for organ recipients. The ethical-moral rationality of this state policy is undoubtedly reason for an urgent ethical-socio-political and scientific discussion [63, 64].

There is a surprising difference in transplant costs in different countries, a factor that deserves to be highlighted. The most frequent differences have been pointed out in the case of kidney transplantation. The cost of a kidney transplant in India is about 95% lower than in the United States ($13,000 in India and approximately $400,000 in the United States) [71, 72]. Such differences are violations of the principles regarding the economics of organ transplants; doubts and unknowns that can have a global effect on the inappropriate social behaviour towards donation.

Organ transplantation is a new medicine since its implementation to save lives inexorably depends on a human organ, fundamentally from a deceased person. The bottom line is simple – without organ donation, death is inevitable. How then to explain the cost differences? How can we justify, for example, that the surgical medical treatment of liver cancer has a significantly lower cost than a liver transplant? [73].

Likewise, it will be of great interest to see how the pharmaceutical industry will participate in improving this new medical practice, which requires the basic therapeutics of human organs to be effective. Given that for the correct maintenance of transplanted organs the use of expensive medications is required for life, should it not be the case that the costs of the required therapy will be cheaper than those therapies that are indicated for diseases that

need only a temporary use [74].

These questions can only be evaluated and answered by expert discussions around the physical and medico-social needs that organ transplants represent. The state's responsibility is to definitively resolve this crisis. This duty should consider the rights of donors and recipients anew. These rights are a special challenge to the concept of social rights since transplantation is the only resource that can save lives in this case. The right to health in this particular context should help resolve donor attitudes and the rights of recipients [31].

Conclusions

In 2019 in the US alone, 6,120 patients died while on the waiting list for an organ transplant [75]. These are certainly wrongful deaths as they were conditioned by the lack of a timely decision to donate. Obviously, direct responsibility belongs to individuals, but the most serious responsibility belongs to the executors of the socioeconomic policies of education and health that have not solved this tragic eventuality.

The difference with other causes of death, for example, those caused currently by COVID 19, is that in transplants, this unjust death is solely due to humanity. People should recognise that the biblical phrase "Dust we have been and dust us will be" is as relevant today as transplantation requires a deceased donor to give life.

The experience of the different changes made to date in search of a solution have not shown a significant evolution of this medico-social crisis. To overcome this cause of wrongful death, the need for different political-legal, education, and economic approaches are required. Defined innovative behaviours are clearly necessary. For the purposes we propose, global debates, structured and rationally directed, should analyse useful options to change the serious social consequences of the organ shortage.

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