

Bioethics and Organ Transplantation: Balancing Medical Innovation and Human Justice.

Bioética y Transplantes de Órganos: Equilibrio entre Innovación Médica y Justicia Humana.

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Abstract:

Bioethics plays a fundamental role in developing and regulating organ transplants and addressing ethical dilemmas related to procurement, allocation, and access to available organs. This article analyzes the main bioethical principles involved in organ transplantation, such as autonomy, justice, beneficence, and non-maleficence, and the ethical challenges in living and post-mortem donation. Similarly, controversial issues are examined, such as the illegal organ trade, informed consent, and equity in global organ distribution. In conclusion, bioethics is essential to guarantee fair and transparent practices in transplants, promoting a balance between medical advances and respect for human rights.

Keywords:

Bioethics, transplantation, organs, donation, medicine

Resumen:

La bioética juega un papel fundamental en el desarrollo y la regulación de los trasplantes de órganos, abordando dilemas éticos relacionados con la obtención, asignación y acceso a los órganos disponibles. Este artículo analiza los principales principios bioéticos involucrados en el trasplante de órganos, como la autonomía, la justicia, la beneficencia y la no maleficencia, así como los desafíos éticos que surgen en la donación en vida y post mortem. Además, se examinan cuestiones controvertidas, como el comercio ilegal de órganos, el consentimiento informado y la equidad en la distribución de órganos a nivel global. Se concluye que la bioética es esencial para garantizar prácticas justas y transparentes en los trasplantes, promoviendo un equilibrio entre el avance médico y el respeto por los derechos humanos.

Palabras Clave:

Bioética, trasplante, órganos, donación, medicina

INTRODUCTION

The development of organ transplantation has been one of the most impressive advances in modern medicine; however, it has raised profound ethical dilemmas that led to the emergence of bioethics as a discipline. Bioethics, which emerged in the

second half of the 20th century, seeks to analyze moral conflicts arising from scientific progress, ensuring that medical practices respect human dignity and human rights.

Even though it was in 1954 when the first kidney transplant between identical twins was successfully performed, the first

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experimental transplants were executed in the early 20th century.

This breakthrough spurred the development of surgical techniques and immunosuppressants, making transplantation of other organs feasible. Nevertheless, with these advances came ethical concerns about organ procurement and allocation, donor consent, and the risk of exploitation of vulnerable individuals.

To address these challenges, international organizations such as the World Health Organization (WHO) and the National Transplant Organization (ONT) have established regulations to regulate organ donation and transplantation. Furthermore, fundamental bioethical principles, such as patient autonomy, fairness in the distribution of organs, beneficence, and non-maleficence, have been formulated to guide decision-making in this field.

Through time, bioethics has evolved to encompass emerging issues, including illegal organ trafficking, the use of organs from brain-dead donors, and ethical considerations in xenotransplantation. This historical background highlights the need for a sound ethical approach to ensure fairness and transparency in organ transplantation.

IMPORTANCE OF ORGAN TRANSPLANTATION AS A MEDICAL ADVANCE AND ITS ETHICAL IMPLICATIONS.

Transplant medicine and bioethics are relatively new disciplines. Likewise, they are closely related considering the possibilities offered by organ donation, possibilities that range from alternative treatment for the relief of serious pathologies to the prolongation of life. Regarding organ donation in Mexico, the General Law of Health, in its fourteenth title, chapter two states, that every person is disposable of his body and may donate it, totally or partially, through the tacit or express consent of the person, so that during his life or after his death, his body or any of its components used for transplants.

Not only is donation an altruistic act, but it allows a person to restore their health and improve their quality of life (and that of their family members). Moreover, it is the greatest act of love due to someone else's willingness to save lives. Donating organs, tissues, and cells has impacted the country's public health: high mortality of people on the waiting list and high demand for an organ that is constantly increasing in contrast to the low rate of organ, tissue, and cell donation. Although donation is one of the most advanced procedures in the medical field, it implies decision-making within a framework of respect for life. Hence, what is considered correct within this medical procedure must be observed and analyzed with a bioethical approach.

BIOETHICAL DILEMMAS IN ORGAN PROCUREMENT AND USE.

Worldwide, the demand for organs has been rising due to various factors such as changes in lifestyle, the incidence in diagnoses, the prevalence of diseases, and increased access to health services that can cover transplant surgeries, which represents a challenge in the procurement of organs given the lack of a culture of donation.

According to statistics in Mexico, an average of twenty people die everyday waiting to receive an organ, and there are at least twenty thousand people on the waiting list; nevertheless, only eight hundred and fifty-five donations and one thousand four hundred and nine transplants were performed in 2024 alone. Considering this need for transplants, one of the major concerns is the procurement of organs since illegal trafficking is, unfortunately, a reality.

The General Health Law stipulates that the trade of organs, tissues, and cells is prohibited. Notwithstanding, illegal sales and extraction are latent problems in situations of poverty and corruption. In addition, the WHO estimates that 10% of transplants in the world are illegally performed. From the perspective of ethics and the context of this situation, two scenarios are presented. The first is organ theft, which, of course, is an illegal conduct and is commonly carried out by criminal organizations. The second one involves other crimes, such as human trafficking; in both cases, the profile is similar: there is a situation of vulnerability. Within the *modus operandi* of this act, some variations are identified, such as :

- Voluntary consent after deception by physicians who do not explain the consequences, risks, and necessary care after surgery.
- Willingness as a result of extortion or pressure from third parties.
- Victims are anesthetized against their will to perform the procedure.

From the ethical point of view, organ theft is a transgression of the Hippocratic ethics, which establishes “to do everything for the benefit of the patient”, and to carry out the medical obligation “*Primum non nocere*” (the first thing is not to harm).

The second scenario refers to the sale of one's organs, in which there is a willingness to sell one's organs in exchange for an economic benefit regardless of the risk that this may entail or that one is disposed to take, resulting in what is known as organ tourism:

- A group of people participate and agree on the sale and the money obtained.
- The “donors” are subjected to procedures under terrible conditions that put their lives at risk.

- There is a structured plan for the procedure (including corruption processes) that avoids the disarticulation of the organization.

While this is ethically improper, the reality is that economic inequality and insecurity promote the increase in the number of people willing to pay much to the donor (after the low supply of altruistic donations). As a result, the decrease in the number of people committed to taking the risk of donating without remuneration has an impact on the increase of illegal trafficking. Given the current problem, several world policies are implemented to counteract the situation.

INTERNATIONAL REGULATIONS ON DONATION AND TRANSPLANTATION.

The growing demand, the high mortality of patients on the waiting list, and the low rate of organ, tissue, and cell donation underscores the importance of establishing guidelines that provide alternatives to improve access to transplantation. In some cases, it is not possible to perform organ donation because there is no compatibility between donor and recipient, which translates into the loss of an effective donor. In other countries, it would probably be helpful for a recipient who is compatible with the donor to be able to donate.

Because of the above, the initiative of an International Organ Donation System between neighboring countries was created, which is characterized by reducing the loss of functional organs due to the lack of a national recipient, improving the possibility of donor-recipient compatibility (patients waiting for an organ, tissue or cell) and increasing the probability of receiving an organ in a given geographic region.

For a satisfactory exchange, factors such as blood group, time on the waiting list, age, anthropometric measurements, relative urgency, and presence of HLA antibodies are evaluated. If the organ does not find a recipient in the country of origin, there are plans to offer it in countries that are part of the program to enhance the use of organs suitable for transplantation.

BIOETHICS: BALANCE BETWEEN MEDICAL INNOVATION AND JUSTICE IN ORGAN TRANSPLANTATION.

Many of the challenges in organ donation arise from the lack of information in this field, together with the human aspect and the value attributed to the body and identity, but especially the association of death with transplants. Ethics comes into play here since the multiple benefits that result from this act of solidarity are indisputable. Nonetheless, for some, it may seem a dehumanized and highly technological medical treatment due to the advances made so far.

Morality is a mixture of norms, values, and beliefs that regulate behavior and influence opposition to organ donation. There are also various factors, such as lack of knowledge about the donation process, religious practices or beliefs, fear of mutilation or damage to the body's integrity, or distrust of professionals or the donation process. Another aspect to consider to understand the refusal to donate the organs of a relative is due to personal reasons of the relatives, but predominantly due to the previous written or verbal manifestation by the potential donor and the need to dignify his life and respect his last will.

Concerning organ donation, there are two relevant systems in the world controversy: the explicit consent system and the tacit consent system. The first system works based on the bioethical principle of autonomy since the person must explicitly express his desire to donate his organs in case of death or brain death. Not without first having full knowledge of what the donation implies and then deciding autonomously and informing his closest circle if he will be a donor or not; within the problems of this system, the following occurs:

Usually, donors are registered before the national system of donors. At the time of death, they do not have the information, so they are not sure if they can even use their organs. If the person had that willingness not to have certainty, sometimes the family decides not to carry out the donation, and that is when the conflict regarding the donor's autonomy is generalized.

On the contrary, in a system of tacit consent, it is taken for granted that people are willing to donate their organs, and if they do not wish to do so, they must expressly tell the State. If this is not done due to lack of knowledge, the State could make use of their organs to give them to those who need them most, and this would no longer be an act of altruism but rather a provision of organs, clearly violating the autonomy of people who die and are potential candidates for transplants.

BIOETHICAL PRINCIPLES APPLIED TO TRANSPLANTATION

Bioethics and organ transplantation have advanced in parallel since the problems in donation and transplantation coincide with the challenges that bioethics has been addressing and trying to solve. It is important to emphasize that a tool of great value that bioethics has recovered from the ethical tradition and promoted in the field of clinical ethics is moral deliberation. It is used to solve concrete problems through analysis and reflection on facts, values, and duties.

It is essential to remember the ethical and legal respect for patient autonomy, which must be observed and practiced by health professionals. Nonetheless, we must not forget that we are also moral agents, responsible for reflecting on the morality of our actions (and our omissions), which should guide us to act

upon what we consider appropriate from both a technical and ethical point of view and to refrain from what we believe to be inappropriate, even if this implies contradicting the patient's will. We are not simply service providers but professionals with technical, legal, and moral responsibilities; therefore, during the transplantation process, we must preserve the following principles:

Autonomy: the right of the donor and recipient to make informed decisions.

Justice: equitable distribution of organs and universal access.

Beneficence and Non-Maleficence: maximization of benefits and minimization of harm.

CONCLUSION

To conclude, the advancement of organ transplantation has been fundamental to modern medicine, but it has also generated essential ethical challenges that bioethics seeks to address. Through principles such as autonomy, justice, and beneficence, bioethics ensures that medical procedures are performed in a manner that is ethical and respectful of human dignity. However, problems such as low donation rates, illegal organ trafficking, and dilemmas surrounding donor consent persist. Therefore, it is essential to continue to develop regulations and ethical approaches that ensure a balance between medical innovation and human rights, promoting a transplantation system that is fair, equitable, and transparent for all.

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