

Organ transplants: ethical approaches and legal solutions

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Abstract

This integrative literature review investigates legal aspects and ethical solutions involved in the illegal organ trade, an activity that sparks debates about ethics and morals. Bibliographical search was conducted on the Virtual Health Library, PubMed and SciELO databases. A total of 14 papers were analyzed, which pointed to low supply associated with high demand for organs as the main etiology of the problem. This market takes advantage of vulnerable populations to coerce them into organ donations. Additionally, the lack of connection between international databases and instabilities in countries with high trafficking rates hinders police action to confront this crime. Organ trafficking should be combated by encouraging legal organ donation, confronting “transplant tourism” and actions aimed at the most vulnerable countries. International entities play a fundamental role in ensuring that different nations work together to repress this type of crime.

Keywords: Organ trafficking. Ethics. Ethics, medical.

Resumo

Transplantes de órgãos: abordagens éticas e soluções legais

Este artigo investiga aspectos legais e soluções éticas envolvidas no comércio ilegal de órgãos, atividade que provoca debates sobre ética e moral. Trata-se de revisão integrativa da literatura realizada por meio de busca nos portais Biblioteca Virtual em Saúde, PubMed e SciELO. Foram analisados 14 artigos, que apontaram baixa oferta associada a alta demanda por órgãos como etiologia principal do problema. Constatou-se que esse mercado se aproveita de populações vulneráveis para coagi-las a doar órgãos, e, além disso, a falta de conexão entre bancos de dados internacionais e instabilidades nos países com altas taxas de tráfico dificultam a ação policial no enfrentamento desse crime. O combate ao tráfico de órgãos deve ter como base o incentivo à doação legal de órgãos, o enfrentamento do “turismo de transplante” e ações direcionadas a países mais vulneráveis. Entidades internacionais têm papel fundamental para que haja trabalho conjunto em diferentes nações na repressão desse tipo de crime.

Palavras-chave: Tráfico de órgãos. Ética. Ética médica.

Resumen

Trasplantes de órganos: enfoques éticos y alternativas legales

Este estudio aborda los aspectos legales y alternativas éticas del comercio ilegal de órganos, una práctica que genera debates sobre ética y moral. Se realizó una revisión bibliográfica integradora en Biblioteca Virtual en Salud, PubMed y SciELO. Se analizaron 14 artículos que señalaban como principal etiología del problema la baja oferta de órganos asociada a su alta demanda. Este mercado coacciona a las poblaciones vulnerables a donar órganos; además, la falta de conexión entre las bases de datos internacionales y las inestabilidades en países con altas tasas de tráfico dificultan la acción policial para combatir este delito. La lucha contra el tráfico de órganos debe basarse en el fomento de la donación legal de órganos, el enfrentamiento del “turismo de trasplantes” y las acciones dirigidas a los países más vulnerables. Las entidades internacionales desempeñan un papel fundamental en el trabajo conjunto entre diferentes naciones para reprimir este tipo de delito.

Palabras clave: Tráfico de órganos. Ética. Ética médica.

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The first human organ transplants date back to the 1930s. Unlike their contemporary objectives, the procedures primarily addressed mutilations during that era. Due to limited medical understanding and the intricate pathophysiological aspects involved, the first kidney transplant attempt in the 1930s was unsuccessful, leading to the patient's death merely 48 hours post-procedure¹.

It was not until the mid-1960s, nearly three decades later, that advancements in medical knowledge, the introduction of immunosuppressants, and the refinement of surgical techniques facilitated successful progress in this field, significantly benefiting transplant recipients¹.

Undoubtedly, organ transplantation stands as one of modern medicine's greatest achievements, offering a chance for survival, alleviating suffering, and enabling the recovery of countless patients worldwide. Nevertheless, a profoundly complex challenge persists: the disparity between the escalating demand for organs and the limited availability of donors. This discrepancy manifests itself in extensive, time-consuming, and occasionally bureaucratic waiting lists due to the legal intricacies inherent in the transplantation process².

Consequently, an illicit organ trade has flourished globally, catering to individuals capable of affording its typically exorbitant costs. In Brazil, the bureaucratic hurdles within the Unified Health System (SUS) concerning transplants, coupled with the disproportionate ratio of donors to recipients, incentivize individuals to explore alternative avenues, sometimes involving highly specialized criminal organizations at both national and international levels. Consequently, living donors or families, in the case of *postmortem* donations, engage in the sale of organs, notwithstanding the potential physical harm it may inflict or the associated legal ramifications³.

As noted by Alves⁴, the *Palermo Protocol*, established in 2004, was one of the first international legal frameworks addressing the subject. While the primary focus of the document pertained to human trafficking, a provision specifically targeted the notorious trade in organs orchestrated by specialized criminal entities.

The rampant escalation of illegal organ trade in 2004 prompted the World Health Organization (WHO) to urge its member states to enact domestic legislation on the matter. Consequently, on March 12, 2004, through Decree 5,017, Brazil incorporated into its legal framework the Additional Protocol to the United Nations Convention against Transnational Organized Crime concerning the Prevention, Suppression, and Punishment of Trafficking in Persons, which outlines the first definition of human trafficking for organ removal⁵.

Within this context, the ethical and legal ramifications associated with the illicit trade in human organs and tissues come to the forefront. Moreover, aside from the multifaceted religious, moral, sociocultural, and historical considerations, the Brazilian legal system notably criminalizes this activity through laws and resolutions addressing the issue^{3,5}.

This study is warranted due to the inadequacy of scientific literature examining the topic. Furthermore, the multitude of laws, resolutions, and regulations governing organ transplantation and its commercialization in Brazil leads to fragmented and outdated knowledge within studies on similar topics available in major databases.

Therefore, this study proposes an analysis of the convergence between transplantation and the illicit trade in human organs and tissues, encompassing the ethical and legal dimensions inherent to this worldwide dilemma. Employing an integrative literature review, the research endeavors to furnish critical insights for deliberation and comprehension of this phenomenon, with the ultimate goal of informing the formulation of public policies and strategies aimed at curtailing this appalling practice. The study also accentuates the following specific objectives of analysis: an examination of the legal framework pertinent to the subject matter; exploration of the ethical and moral ramifications implicated therein; and identification of feasible legal remedies to address this challenge.

Method

This integrative literature review employed a qualitative and quantitative approach with a

descriptive objective, facilitating the synthesis of published works and the derivation of conclusions based on a formulated guiding question⁶. All stages of the review were conducted independently by two researchers, with any discrepancies resolved through analysis by a third party. While the review was not registered on the Prospero Platform, it adhered to the recommendations outlined in the PRISMA Protocol⁷.

The study comprised six interconnected steps: 1) formulation of the guiding question, 2) literature search, 3) data collection, 4) critical analysis of included studies, 5) discussion of results, and 6) presentation of the integrative review⁸. The guiding question was crafted utilizing the PICO strategy (Patient, Intervention, Comparison, Outcomes)⁹.

Carried out on October 26, 2023, the search encompassed the Lilacs database via the Virtual Health Library (VHL), as well as Medline via PubMed, with SciELO serving as a supplementary resource. For this purpose, distinct combinations of descriptors were employed for the search in each database, as illustrated in Table 1: Health Sciences Descriptors (DeCS) for searching in Lilacs and SciELO; Medical Subject Headings (MeSH), for PubMed search.

Chart 1. Bibliographic search: Boolean descriptors and operators

Portal	Search syntax
VHL	((tráfico de órgãos) OR (organ trafficking) OR (tráfico de órganos) OR (trafic d'organes)) AND ((ética) OR (ethics) OR (éthique)) AND (mj:(“Tráfico de Órgãos” OR “Turismo Médico” OR “Comércio” OR “Consentimento Livre e Esclarecido” OR “Pena de Morte”)) AND (year_cluster:[2013 TO 2023])
SciELO	((tráfico de órgãos) OR (organ trafficking) OR (tráfico de órganos) OR (trafic d'organes))
PubMed	(organ trafficking) AND (ethics)

Following the search, the articles were downloaded and shared with both authors via Google Drive. The sample encompassed both freely accessible and paid articles, with the latter obtained through institutional access via the Capes Periódicos Platform. Each author independently

read the abstracts and filed them using Microsoft Word software. In instances of disagreement, a third author was consulted to facilitate resolution and authorize the continuation of the study.

Initially, primary studies that aligned with the review's overarching objective were included, while those not available in Portuguese, English, or Spanish, or not published between 2013 and 2023, were excluded. Subsequently, the selected studies were thoroughly reviewed and structured into a data collection instrument.

Microsoft Word was utilized to create tables for each article, detailing the title, authors, year, publication, level of evidence, study design, and alignment with the review's objectives. This process was independently conducted by two researchers, with any discrepancies resolved by a third reviewer.

Studies with evidence level below 4, according to the Oxford levels of evidence, were excluded, including expert opinions lacking critical evaluation¹⁰. The results shaping this text were subsequently organized.

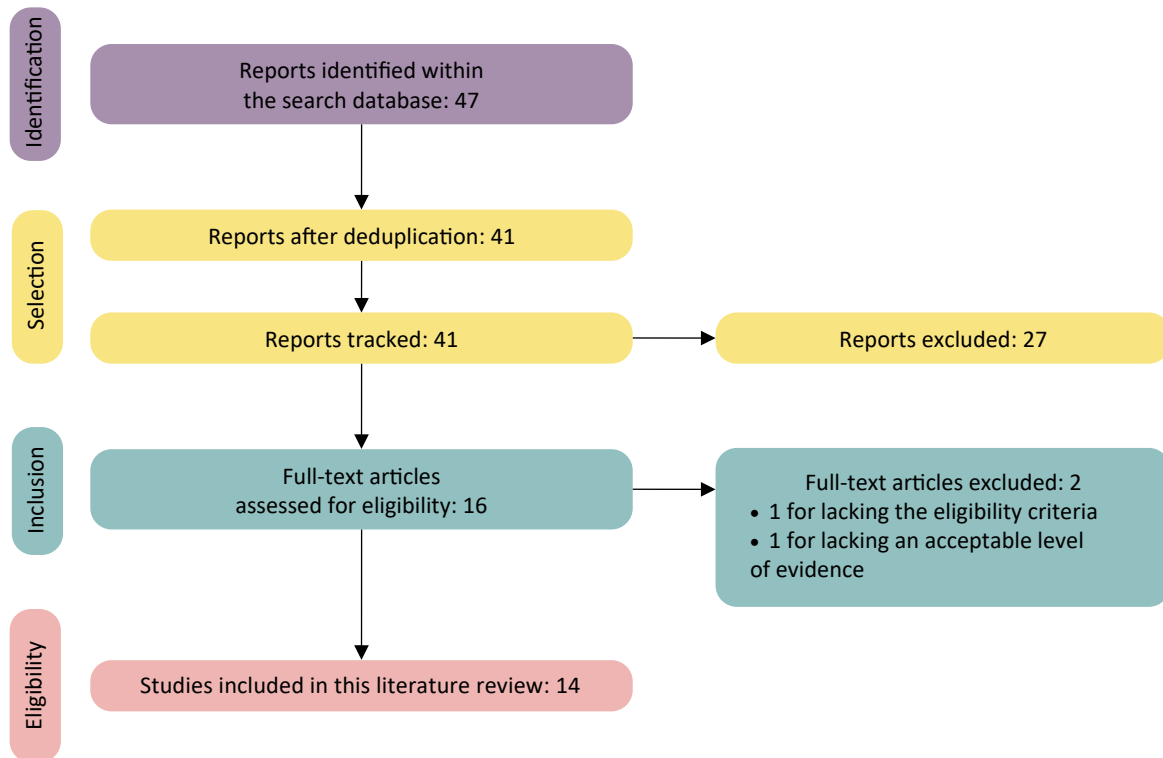
Submission to a research ethics committee was deemed unnecessary, as this work draws upon information readily available from previously conducted studies. This review adheres to Resolutions 466/2012¹¹ and 510/2016¹² issued by the National Health Council.

Results

A total of 47 titles were initially identified, from which 6 duplicate studies were excluded, leaving 41 abstracts for independent review. Of these, 16 abstracts were excluded for failing to align with the review's general objective, while an additional 11 were discarded due to their low level of evidence.

The remaining 16 articles underwent full-text review, applying eligibility criteria focused on addressing factors conducive to organ trafficking, challenges in combating organ trafficking, ongoing ethical debates, and the solutions currently implemented. Consequently, 14 studies were deemed suitable for inclusion in this review. The process is outlined in Figure 1.

Figure 1. Flowchart of the stages of the selection process of articles for the integrative review



Among the chosen articles, six were sourced from Lilacs via VHL, five from Medline via PubMed, and three from SciELO. Chart 2 outlines the details concerning the title, authors, publication, level of evidence, and thematic

considerations for each study. To facilitate the analysis of the 14 articles, a comprehensive data collection and synthesis framework was devised, aiming to systematically organize the information.

Chart 2. Summary table of studies included

Authorship; year	Title	Portal	Main results
Martin and collaborators; 2019 ¹³	"A new edition of the Declaration of Istanbul: updated guidance to combat organ trafficking and transplant tourism worldwide"	VHL	The <i>Istanbul Declaration</i> (ID) denounces the practice of offering financial incentives for organ donation, acknowledging the challenges in combating trafficking, particularly in economically disadvantaged nations. It emphasizes the importance of health professionals and individuals engaged in facilitating voluntary organ donation to educate patients about the risks associated with illicit organ procurement.
Kabbur; 2016 ¹⁴	"Can social media help increase the organ supply while avoiding exploitation and trafficking?"	VHL	Social media has exerted a substantial influence on the organ donation process, yielding both positive and negative outcomes through actions such as online campaigns aimed to bolster donor numbers. Conversely, concerns arise regarding data breaches and the compromise of ethical confidentiality. Furthermore, it warns of the fact that the low supply of voluntary donations indirectly encourages organ trafficking.

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Chart 2. Continuation

Authorship; year	Title	Portal	Main results
Piccoli and collaborators; 2015 ¹⁵	“Doctor, can I buy a new kidney? I’ve heard it isn’t forbidden: what is the role of the nephrologist when dealing with a patient who wants to buy a kidney?”	VHL	The text underscores kidney sales on the black market, highlighting how globalization has streamlined the trade and tourism of organ transplants. Additionally, rooted in the principles of medical ethics, the text delves into the adverse consequences of organ purchasing and the coercion of vulnerable populations into donating organs.
Ambagtsheer and collaborators; 2015 ¹⁶	“Reporting organ trafficking networks: a survey-based plea to breaching the secrecy oath”	VHL	Combating organ tourism, particularly the purchase of kidneys in countries like China, Pakistan, and India, presents formidable challenges. These hurdles include the arduous task of substantiating the procurement process, patients’ limited awareness regarding the ethical intricacies at play, and the inherent difficulty in reporting trafficking operations without jeopardizing medical confidentiality through the disclosure of patient data.
Moazam, Jafarey; 2014 ¹⁷	“Pakistan’s experience with kidney transplantation and trade: a call for international solidarity”	VHL	The history of organ transplantation in Pakistan is explored, with a particular focus on the influence of Muslim religious beliefs, which contribute to the reluctance of practitioners to embrace organ transplantation. Additionally, challenges in enforcing laws against organ tourism are underscored, attributed to the influence of criminal enterprises and organizations within the state.
Danovitch; 2014 ¹⁸	“The high cost of organ transplant commercialism”	VHL	The text acknowledges the flow of illegally traded organs from poorer countries to wealthier ones, despite the prevalence of high rates of kidney failure in impoverished nations. The text also emphasizes efforts against trafficking undertaken by entities such as the Istanbul Declaration Custody Group and the Israeli government.
AlSulaiman and collaborators; 2021 ¹⁹	“Organ transplantation in Arabian Gulf countries: ethical and legal practice and beyond”	PubMed	The concern regarding organ trafficking and the exploitation of vulnerable individuals is recognized as an international issue. This practice is prohibited across the Arabian Gulf, prompting a discussion on the situation in these countries and the historical measures implemented to combat both human and organ trafficking.
Spasovski, Busic, Delmonico; 2015 ²⁰	“Improvement in kidney transplantation in the Balkans after the Istanbul Declaration: where do we stand today?”	PubMed	The text underscores the situation and obstacles faced by national transplant systems in the Balkans, drawing upon the principles outlined in the <i>Istanbul Declaration</i> regarding practices to combat the illegal trade in organs.
Dalal; 2015 ²¹	“Philosophy of organ donation: a review of ethical facets”	PubMed	Illegal monetized organ donation often exploits socially vulnerable individuals by offering derisory compensation, thereby subjecting them to various risks. The text examines actions aimed at bolstering the legal demand for organs in different countries, such as the Israeli organ transplant law and financial incentive initiatives in China and Iran. These actions raise ethical questions while also exposing vulnerable individuals to exploitation as mass donors.

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Chart 2. Continuation

Authorship; year	Title	Portal	Main results
Ajayi, Raji, Salako; 2016 ²²	“Ethical and legal issues in renal transplantation in Nigeria”	PubMed	Nigeria grapples with ethical issues concerning organ donation, notably the absence of national regulatory laws, which exacerbates the export of donors. Given its vulnerable environment, the country faces challenges ranging from securing voluntary donations to combatting the violent criminal harvesting of organs.
Hartsock, Helft; 2019 ²³	“International travel for living donor kidney donation: a proposal for focused screening of vulnerable groups”	PubMed	Specific issues concerning the donation of organs from living individuals who are not native to the country of donation are addressed, aiming to curtail the illegal trade in organs. In such donations, illegal remuneration can be disguised since the expenses are typically covered by the recipient. Moreover, it becomes the responsibility of the country to certify the altruistic nature of the donation and ensure safe conditions throughout the process for the donor.
Biasibetti; 2021 ²⁴	“O tráfico de pessoas, órgãos e partes do corpo humano em Moçambique: um olhar a partir de 3 estudos realizados pela CEMIRDE”	SciELO	Organ trafficking in Mozambique is exacerbated by a multitude of socioeconomic and cultural factors. Of note are political tensions, cultural rituals involving the offering of human body parts, and significant migratory patterns resulting from civil conflicts within the country.
Rodríguez; 2018 ²⁵	“Tráfico ilegal de órganos: retos para la seguridad internacional”	SciELO	The primary cause of illegal organ trade stems from the disproportionate relationship between demand and supply in organ donations. Additionally, there is a profound social inequality among nations, contributing to various issues that foster the sale and illicit trafficking of organs and people.
Porxas Roig; 2017 ²⁴	“La Convención sobre la lucha contra el tráfico de órganos, una mirada desde la bioética”	SciELO	The Convention against Organ Trafficking (CTO) served as a platform to harmonize concepts and legal frameworks concerning organ trafficking, including the criminalization of monetized voluntary donations. Discussions at the convention revolved around topics such as the “opt-in” and “opt-out” systems for individuals’ consent to donate their organs, as well as the donation of organs from individuals incapable of providing consent.

Discussion

The results presented in Table 2 underscore the imbalance between organ demand and supply as a central issue surrounding the illegal trade in organs²⁵. This demand surge is attributed to various factors, including the escalating prevalence of obesity, and nutritional, and metabolic disorders. For instance, global obesity rates among children and adolescents surged from 1% in 1975 to 6% in 2016, consequently amplifying the need for organ

transplants affected by the disorder, particularly affecting organs such as the heart and kidneys²⁷⁻²⁹.

Additionally, global socioeconomic disparities significantly contribute to the perpetuation of organ trafficking. Notably, 50% of the 14 articles highlighted inequality as a primary driver behind the illicit purchase and sale of organs^{15,22,24,25}. In Nigeria, for instance, the absence of state regulation renders the population susceptible to trafficking. Similarly, Mozambique faces various factors that make its population vulnerable to the significant illicit demand for organs^{22,24}.

In addition, some factors make addressing these actions challenging, related to the rise of social media, which has accelerated global interactions. However, these platforms not only facilitate interpersonal connections but also link desires and needs, significantly impacting the legal donation of organs. Consequently, many individuals can articulate their willingness to be organ donors within a shared space and also motivate others to donate.

Social networks offer numerous advantages in terms of promoting organ donation¹⁴; however, they not only facilitate illegal activities but also raise ethical concerns. In this context, research indicates the utilization of digital platforms by human traffickers to lure and approach potential victims, with intentions that may encompass the extraction and commercialization of organs³⁰.

Another significant aspect to underscore is the ethical challenges stemming from the use of social networks and other digital platforms for organ donation. Certain websites enable donors to select recipients, a practice that contradicts the guidelines and principles of justice outlined by the Organ Acquisition and Transplantation Network, allowing donors to discriminate against potential recipients based on factors such as gender, race, and religion¹⁴.

In the United States, an incident that brought forth these ethical inquiries occurred following a car crash that led to the brain death of an 18-year-old girl. Even before the family was informed of the young woman's passing, social media initiated a campaign urging the family to consider donating her organs. Regrettably, under social pressure, the family opted not to do it³¹, a decision that ignited discussions about family autonomy in such circumstances, where digital platforms can wield influence over decisions.

Addressing ethical considerations, there are two prevailing systems worldwide that govern organ donation—"opt-in" and "opt-out" systems. The former entails obtaining prior permission from the deceased or, in some instances, from the family, for organ donation; the latter assumes that the deceased would have consented to donation unless they explicitly expressed disagreement during their lifetime. Selecting the most suitable system presents numerous ethical and sociocultural challenges.

Moreover, since countries have autonomy in choosing different systems, determining the universally best or worst system is practically unfeasible. Indeed, this was a topic discussed at the Council of Europe Convention against Organ Trafficking (CTO) in 2015²⁶.

Ethical complexities are further heightened in cases of organ trafficking from living individuals, as the process involves two parties: the donor/seller and the receiver/recipient. Analyzing the various circumstances through the lens of the four principles of principlist bioethics (beneficence, non-maleficence, justice, and autonomy), one can discern the inherent complexity of the issue.

Hence, the perceived benefit to the recipient from a living donor may not always materialize in certain scenarios, and opting for the risk of undergoing an illegal transplant carries no assured benefit^{15,32}. Research indicates that receiving organs from living donors enhances the likelihood of greater survival, as evidenced by studies^{13,16,22,27}.

However, it is important to note that statistical benefits may not always translate into individual advantages. In the case of kidneys, there is limited evidence demonstrating the actual benefits of purchasing an organ from a living donor compared to receiving one from a deceased donor. Ultimately, the tangible benefits of receiving an organ from a living donor hinge on various factors including the recipient patient's medical history, such as the frequency of dialysis sessions they have undergone.

The autonomy of the donor/seller is also brought into question when they are in a disadvantaged social and economic position compared to the buyer. Thus, donations based on the principle of autonomy must be free from any form of moral or financial coercion. A donor facing extreme poverty may experience financial coercion, and their decision, rather than being altruistic, may solely stem from the desire for economic advantage. Another instance of coercion and violation of the principle of autonomy occurred with a 1984 Chinese national law, which permitted prisoners facing execution to provide consent for organ donation seven days before their execution^{15,32,33}.

In light of this, efforts to prevent illegal organ transplants, particularly from living donors, are imperative, given the significant social and

economic vulnerability experienced by kidney donors^{18,20,23}. Kidneys are among the most trafficked organs globally, primarily because humans can maintain good health with just one of them.

Alarming, from an epidemiological standpoint, a quarter of all kidney transplants involve illegally sold organs. Moreover, the most vulnerable populations are often the most willing to sell parts of their bodies in exchange for substantial sums. However, the illegal organ trafficking network typically allocates only small portions of the total proceeds from such transactions to the donors, with the majority of funds going to the professionals involved^{15,34}.

Regarding mechanisms aimed at addressing the issue, one of the earliest documents to tackle organ trafficking globally was the *Additional Protocol to the United Nations Convention against Transnational Organized Crime Relating to the Prevention, Suppression, and Punishment of Trafficking in Persons, Especially Women and Children*⁵. However, this document—also known as the *Palermo Protocol*—did not solely focus on organ trafficking; its scope included creating measures to prevent human trafficking.

It was not until 2008, with the *Istanbul Declaration on Organ Trafficking and Transplant Tourism*, that the United Nations (UN) formulated guidelines for combating and preventing international trafficking in human tissues and organs. Brazil became a signatory to this declaration on February 7, 2012^{35,36}.

The Istanbul Declaration, among its array of initiatives, urges healthcare professionals to vehemently condemn the illicit acquisition of organs. Despite medical confidentiality posing a challenge in combating this crime, the doctor's

input is crucial in advising patients about the risks associated with obtaining organs illegally¹⁶. Several other publications underscore this concern regarding ethical principles on organ transplantation, including the works released by the United Network for Organ Sharing (UNOS)³⁷ and the Organ Acquisition and Transplant Network (OPTN)^{12,36}.

Given these considerations, it is imperative to implement actions that combat the deplorable practice of objectifying the human body, alongside measures that have proven successful in tackling this form of trafficking. A notable case is that of Pakistan, which implemented a series of measures to combat kidney trafficking within its borders, although the practice persists despite the efforts¹⁵.

Countries like Pakistan also struggle with the so-called “transplant tourism.” Remarkably, many developed countries do not penalize their citizens who partake in such procedures. In essence, individuals from affluent nations travel to impoverished countries, engage in illegal transplants, and face no legal repercussions upon returning home^{15,32}. Addressing this issue calls for international cooperation and cohesion to effectively resolve these actions.

Final considerations

Trafficking in human organs and tissues represents a national and international dilemma, violating numerous ethical principles in addition to being illegal. Consequently, international entities such as the UN play a crucial role in combating this scourge. However, the fight against organ trafficking is hampered by discrepancies in legislation across different jurisdictions.


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Participation of the authors

Lucas Cruz Torres was responsible for crafting the methodology, adapting it to the journal's standards, selecting studies through peer review, reviewing the text, and approving the final version of the article. Francisco José Ferreira Filho oversaw and guided the entire production process, including reviewing the text and approving the final version of the article. He also played a role in resolving conflicting opinions during the rigorous selection of studies and contributed to the scientific writing of the discussions. Jamille Rodrigues Dias Cruz participated in the scientific writing of the results, selection of studies through peer review, reviewing the text, and approving the final version of the article. Pedro Lucas de Oliveira Pinheiro contributed by suggesting the topic, crafting the scientific writing of the introduction and conclusion, selecting studies through peer review, reviewing the text, and approving the final version of the article.

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