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The Bioethics and Utility of Selling Kidneys for Renal Transplantation

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Abstract

In the fifty years since kidney transplantation was first performed, this procedure has evolved from a highly speculative biomedical endeavor to a medically viable and often standard course of therapy (1). Long-term survival is markedly improved among patients who receive a kidney compared with patients who remain on the waiting list for such an organ (2). As outcomes have improved and more clinical indications have emerged, the number of people awaiting transplantation has grown significantly.

In stark contrast to the robust expansion of the waiting list, the number of available deceased donors has remained relatively constant over the last several years (1). The current mechanism for procuring kidneys relies on voluntary donations by the general public, with the primary motivation being altruism. However, in light of the ever-increasing waiting list, it is the authors' belief that the current system needs to be revised if supply is ever going to meet demand. In response to this critical organ shortage, different programs have been developed in an attempt to increase organ donation. At present, however, no solution to the problem has emerged. This paper begins by outlining the scope of the problem and current legislation governing the procurement of transplantable organs/tissues in the United States. It continues with an overview of different proposals to increase supply. It concludes by exploring some of the controversy surrounding the proposal to increase donation using financial incentives. Though the following discussion certainly has implications for other transplantable organs, this paper will focus on kidney transplantation because the waiting list for kidneys is by far the longest of all the solid organs; and, as it carries the smallest risk to living donors, is the least ethically problematic.

Keywords

Bioethics; Transplantation; End Stage Renal Disease

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On December 23 1954, the first live donor kidney transplant was performed. The donor, Ronald Herrick, gave his kidney to his identical twin brother, Richard, who was suffering from chronic nephritis. Following the transplant, Richard lived for eight years, married, and had two children. Ronald Herrick is still alive today at the age of 73 (3).

At that time, and still today, the idea of live kidney donation was fraught with ethical concerns. One of the first rules taught to medical students is that of, “Do no harm”. In the case of the live kidney donor, this injunction appears to be violated, since a healthy individual must undergo surgery in order to procure his/her organ. In order for the operation to be morally acceptable, the benefit to the recipient must far outweigh the risk assumed by the donor. Another morally acceptable reason for the procedure might be that it provides a benefit to the donor. In the case of the two brothers, the benefit was the desire of Ronald to help his brother live. In this manuscript we explore whether, for another donor, the benefit could ethically be something else entirely.

Discussion

We begin the discussion with a history of the discourse surrounding the procuring of organs in the United States and then explore the controversy surrounding the proposals to increase donation with financial incentives.

Living Versus Deceased Donor Transplantation and Current Waiting Lists

Patients with advanced kidney disease can receive organs from either deceased or living donors. Outcomes data from UNOS, the United Network for Organ Sharing, have long demonstrated that the best survival rates occur in recipients of kidneys from living donors. For example, five-year Kaplan Meier survival rates for kidney transplants performed between 1995 and 2002 is 90.5 percent for living donor recipients, as opposed to 82.5 percent for patients receiving deceased donor organs (4).

Although outcomes with living donor kidneys are superior, there is a large supply-demand discrepancy between the number of individuals willing to donate kidneys and the number of candidates on the waiting list. As of May 31, 2004, there were 88,165 patients awaiting transplantation, 61,960 of whom were waiting for kidneys (5). During 2004, only 16,002 kidneys were transplanted in the United States, of which 9,355 were from deceased donors and 6,647 from living donors respectively (5). While the total number of kidneys transplanted during 2004 represented an increase over years past, it is woefully insufficient to meet the ever-proliferating waitlist needs.

Laws Governing Transplantation

The burgeoning scarcity of organs is not a new issue. As early as 1968 the National Conference of Commissioners on Uniform State Laws drafted the Uniform Anatomical Gift Act of 1968 (UAGA). This legislation was designed to serve as a guideline for state governments of the principles and procedures for the donation and receipt of transplantable organs (6). Under this Act, any competent adult has the ability to permit, specify, or forbid the use of his or her body and organs for transplantation, research, or educational purposes after his death. Consent to organ donation can be established by a donor card or will, referred to as an “opt-in” system. In the absence of memorialized intent, the next of kin may determine whether or not donation takes place.

The UAGA of 1968 did not make reference to any financial incentives or other monetary issues related to organ procurement, thinking that the matter should be left to “the decency of intelligent human beings” (7). By 1973 all 50 states including the District of Columbia had

accepted this Act (8); however, despite widespread endorsement, the shortage of organs continued to escalate.

In 1987 the states drafted a revision of the UAGA. The revised legislation banned commercial transactions involving deceased donor organs and simplified the requirement for a valid donor card (9). It also required medical personnel to request consent for organ donation from all suitable patients or their next of kin. In addition, the revised legislation allowed for donors to donate organs, if this was their preference, even when the next of kin disagreed with their decision. Since the UAGA of 1987 was not uniformly accepted by all states, at present most states do not specifically prohibit the sale of organs for transplantation.

In addition to the above state legislation, the federal government attempted to resolve the organ shortage with a variety of legislation. The first of these was established in 1984 in the form of the National Organ Transplant Act (NOTA). The act was established by Congress to both alleviate the scarcity of organs and to improve donor-recipient matching through a national system of organ procurement and allotment (10). To aid in their objectives, the NOTA directed the Secretary of the Department of Health and Human Services to establish a nationwide Organ Procurement and Transplantation Network (OPTN), which would provide a central computer registry of potential transplant recipients (11).

In contrast to the state act of 1987, the federal act under NOTA in 1984, prohibited commercial transactions involving human organs from live donors (12). Violation of this law is a felony and is punishable by a fine of 50,000 dollars and/or up to 5 years in prison (13). While this Act forbids the use of money in order to acquire, receive, or transfer, any human organ for transplantation, it does allow for “reasonable payments associated with the removal, transportation, implantation, processing, preservation, quality control, and storage of a human organ or the expenses of travel, housing, and lost wages incurred by the donor of a human organ in connection with donation of the organ” (14). Congress established the prohibition on the financial incentives for organ acquisition, because they feared that such incentives would prey on the more indigent members of society.

Attempts To Increase Supply Through Less Controversial Means

One of the main elements of NOTA was that it authorized the Department of Health and Human Services (HHS) to establish a Task Force for organ procurement, with the requirement to develop new and more effective ways of procuring and allocating organs. Though the principles of the UAGA and NOTA have been adopted in one form or another in all fifty states, organ donation has continued to be far outpaced by demand. Though there are a number of reasons for this, first, and foremost, there remains a huge shortage of donors-both living and deceased.

Greater efforts are certainly being made to get more citizens to become organ donors. One option being considered is an “opt-out” law, similar to what several European countries are currently trying, where there is “presumed” consent unless otherwise specified. The results in Europe have been variable. For example, the opt-out law in Sweden does not seem to have influenced donation rates per million of population, whereas Spain has increased its donation rate, albeit modestly (15). As the head of the Committee for Transplantation at Vienna’s University Hospital, Professor Ferdinand Muehlbacher, noted, “Presumed consent--making the individual opt-out of being an organ/tissue donor--is not a panacea to combating the shortage of donors” (16).

In another attempt to encourage and facilitate deceased donor transplantation, policies and procedures to identify and expedite the allocation of kidneys with unfavorable donor characteristics were developed and implemented. Expanded Criteria Donor (ECD) kidneys represented 15% of deceased donor transplants in 2002, though it should be noted that ECD

kidneys have lower allograft survival rates and the most appropriate use for ECD kidneys continues to be debated (17).

The main point is that the above efforts, though helpful, are, in and of themselves, insufficient to address the enormous, and growing, waitlist.

A “Black Market” For Kidney Transplantation Has Developed

As a result of the organ shortage, a black market has developed in which the indigent are targeted and paid for their body parts (18). This system poses additional risks to both donor and recipient. While it may seem as though recipients have nothing to lose by venturing into the kidney black market, the reality is somewhat different. On the one hand, kidney transplantation should be expected to provide patients with longer life expectancy as well as a markedly improved quality of life. In a study reported in the *New England Journal of Medicine*, the mortality rates were analyzed among over 200,000 patients who underwent dialysis for end-stage renal disease. Of these, some 23,000 actually received a kidney. The overall projected years of life remaining were ten for patients who remained on the waiting list and twenty for those who received a transplant (2). On the other hand, since the sale of organs is not permitted in developed countries, many patients seek out transplantation in third world countries where medical care may be substandard. This system, therefore, has the potential to pose an increased risk of complications and comorbidity to recipients, culminating in inferior outcomes. In support of this notion, in 2003 Friedlaender, a medical doctor in Israel, described a series of eighty patients who underwent commercial living unrelated kidney transplants in Iraq, as the practice is illegal in Israel. Sixty-five percent of the patients had to be re-hospitalized immediately after the procedure and there was a ten percent mortality rate after one year, much higher than would be expected in a modern transplant center (19). Published studies from India also show an increased incidence of viral infections such as hepatitis B, hepatitis C, and HIV acquired through transplantation, in recipients who elected to pay non-related living donors for kidneys on the black market (20).

The health risk to the donor may also be considerable in this setting. Besides being subjected to operative risks and potential infectious complications following nephrectomy, reports have shown that donors are sometimes sent home from the hospital too early, and are often administered substandard care as a result of their dire financial straits and educational inadequacies. These donors, with limited access and resources to start with, are not offered follow up care and are discharged without further regard once the procedure has been performed. In the event of an individual dying as a result of donation, there are frequently no systems in place to protect their next of kin or offer compensation for any negligence or damage.

Arguments Against the Selling of Organs

Concerns raised regarding the selling of organs, some practical and some philosophical, include: 1) Selling of organs puts the healthy donor at risk and is a violation of a core principle of medicine, “Do no harm”. 2) Selling of organs is unfair in that it sets up a two-tier system where the wealthy can purchase organs and the poor are coerced by financial incentives. 3) The idea of selling organs violates religious and community norms and may actually result in a decrease in the availability of organs as groups opposed to this concept may withhold altruistic donation. 4) It is simply immoral to sell organs.

Violation of the Principle of “Do No Harm”

A principle in medicine is that benefit must outweigh risk. In Western countries, live donation of a kidney is a remarkably safe procedure (the donation of a lobe of the liver is another story). Dr. Thomas Peters, director of the Transplant Center in Jacksonville Florida has recently estimated the mortality rate from living kidney donation at 3 in 10,000. In addition, over 90%

of those who have donated a kidney and been given proper medical care have affirmed that they would go through the process again (21). Much of the morbidity and mortality associated with the black market in renal transplantation, discussed previously, could be avoided if legalized systems were in place to protect or provide care for both the donor and the recipient. The benefit to the donor, as well as the recipient and society, could be significant.

Mandating reliance on the traditional methods of organ procurement denies the importance that finances play in the current system of organ allocation. For example, the current system allows for financial compensation to everyone *but* the donor (22). Surgeons, the hospital in which the transplant takes place, and all other parties involved in the process of procurement are compensated for their efforts. In fact, hospitals often bill transplant patients more than twice the hospital's organ acquisition cost (23). Traditional methods of organ procurement also ignore the cost that society incurs while ESRD patients are on the waiting list. Using a Markov model, Matas and Schnitzler found that a kidney transplant from a living paid unrelated donor could save \$94,579 (24). Therefore, a payment to a living kidney donor of \$80,000 together with the provision of improved post donation health benefits, would still produce a net financial saving to society compared to providing chronic dialysis therapy for that potential recipient while he waits for a deceased donor kidney. The benefit to recipients in this setting would be the minimization or even avoidance of needing dialysis, resulting in enhanced quality of life and longevity. Thus, theoretically, living kidney donors could be paid up to \$80,000, while at the same time saving money and increasing health benefits. An alternative, that might be more acceptable, would be to utilize some other form of compensation such as a college 'scholarship' for the patient or a designee (this is discussed in depth later).

Two-Tier System for Organ Transplantation and Coercion

A concern that has been raised is that selling of organs allows the wealthy to purchase organs while the poor would be "priced out of the market". For kidneys, at least, this should not be an issue as renal replacement (dialysis or transplant) is covered by HR1, the Medicare Act of 1973, and everyone is entitled to this benefit (25).

Selling of organs is also thought to unfairly target the poor. Those in opposition to organ commercialization express the belief that the indigent are unable to act autonomously in the face of potential financial reward, and that such a system involves coercion of those who are underprivileged. It is argued that the exchange between vendor and recipient is not truly free, since most potential vendors are coerced by financial benefits due to their extreme poverty and limited insight. The claim is that the financially disadvantaged do not have the free will to make a truly informed decision when faced with the possibility of financial compensation (26).

The idea of free will and informed consent has been discussed by Beauchamp and Childress, both of whom have been very influential in the evolution and development of the field of bioethics. It is attention to autonomy that underlies privacy and confidentiality issues, as well as concerns involving informed consent, as the principle of autonomy allows for individual freedom of action. Beauchamp and Childress define autonomy as, "...personal rule of the self that is free from both controlling interferences by others and from personal limitations that prevent meaningful choice such as inadequate understanding" (27).

This definition is often used by bioethicists and other medical personnel to determine procedural policy in medicine. However, examination of this definition reveals that autonomy in its pure form is more fiction than reality, as we are all, to some extent, governed by controlling influences from others.

The concept of autonomy stems from a Kantian philosophy and view of the world. Kant, a philosopher in the eighteenth century developed immutable rules by which he felt individuals

should live their lives. One of these rules is that each individual is an end in themselves and should be treated as such. According to Kant, one must never be treated as a means to an end. For Kant, seeing as we are all ends in ourselves, and we are meant to act from a sense of duty irrespective of our external circumstances and influences, instituting a principle such as autonomy seems reasonable (28).

While his ideas seem laudable, when Kantian principles are applied to real world situations, his philosophy typically breaks down. The problem with the Kantian viewpoint, and also with the principle of autonomy, is that it is too abstract and is not always practical. Real life situations frequently require a subtle understanding of circumstances and motivation and cannot always be decided based on rigid principles. Particularly in the field of health care, individuals have unique experiences and are suffering on a very practical level. The application of rigid principles to their situation may not be advisable.

Informed consent, which according to Beauchamp and Childress was established primarily to protect autonomy, is similarly amorphous, and, is admittedly, rarely informed or truly consent. Beauchamp and Childress allude to this when they mention that disclosure of information, a factor necessary for informed consent, is, “often less vital in clinical medicine than a health professional’s recommendation of one or more actions” (27). Disclosure of information sounds like a worthy ideal, and would hypothetically generate patients with a real understanding of their situation and options; however, in practice, it is frequently the physicians’ recommendation that makes the difference. “Understanding”, another one of the factors important in informed consent is also not always practical, as “the chances are remote that a subject really understands what he has consented to” (27).

While autonomy may be more fiction than reality, one can still argue that in any case, one group may have less autonomy than another. If one were to take this argument to its logical conclusion, he may have a hard time explaining why a group that he thinks has limited autonomy, namely the poor, needs to be further restricted when they make a decision to sell a kidney. In fact, an argument can be made that allowing an individual to benefit from the sale of his kidney further enhances his autonomy and gives him an opportunity to improve his economic circumstances. Perhaps the better course is to endeavor to change the circumstances that disadvantaged people are living in, as opposed to further restricting their choices.

Violation of Religious and Community Norms

It has been argued that using financial incentives could alienate religions and cultures and actually reduce the supply of available organs (29). For example, the Catholic Church is opposed to selling organs (30,31). Also, as Caplan notes, African-Americans are as likely to be turned off by a market in body parts due to their historical experience with slavery and a distrust of the medical system resulting from experiences such as the Tuskegee syphilis study, as they are to be motivated by financial incentives (29,32,33).

Obviously, it is impossible to know the impact of financial incentives on the supply of organs before such an “experiment” has been attempted. However, the results of a recent study are encouraging. 971 patients in Pennsylvania were contacted in a telephone survey and respondents were asked whether they supported donor benefits as a matter of public policy, and whether they thought that benefits would affect donation rates (34). A primary goal was to examine how public opinion varied with the sociodemographic characteristics of respondents, particularly their ethnicity and whether or not they were registered as donors. The study found support for donor benefits, with 59% of respondents agreeing that “the state should offer incentives or benefits that encourage eligible families to donate a loved one’s organs.” In the adjusted models, nonwhite respondents were twice as likely to support direct payment as white respondents. Importantly, the study did not find that currently registered donors would

oppose benefits and reconsider their decision to donate. On the contrary, registered donors appeared highly committed to their donation decision and expressed strong support for benefit programs. The number of respondents opposed to benefits was small, and most were not registered donors (34). 78.7% of the respondents were Christian, 3.1% Jewish, 5.1% “other”, 11.8% “none”, and 1.2% refused to answer or did not know, which mirrors the United States population.

The above study is particularly salient with respect to minority groups. Caucasian donors made up most of the estimated 50,524 live kidney donors between 1988 and 2005. In contrast, data from UNOS show that the numbers of donors from historically disadvantaged ethnic groups were much lower: 9,084 for African Americans and 8,136 for Hispanics over the same period. In essence, while African Americans account for 36% of waitlisted kidney candidates, they continue to be underrepresented among living donor recipients and additionally have lower rates of transplantation than Caucasians (35). As far as deceased donor kidney transplants are concerned, there have been 63,830 kidneys from Caucasians over this time period compared to 10,618 and 8,919 for their African American and Hispanic counterparts respectively (36). This is important because historically disadvantaged minorities spend longer on the waiting list for kidney transplantation and have more difficulty finding an organ match than do other ethnic groups. They are also less likely to receive well-matched organs, a situation that contributes to higher risks of graft rejection and ultimately graft failure in this population (37).

These data strongly underscore the problems faced by historically disadvantaged minorities. Carefully regulated and monitored programs that offer financial incentives for organs could potentially augment the pool of available kidneys, and help disadvantaged minorities to an even greater degree. This is particularly poignant among the African American population, disproportionately afflicted with ESRD, with both higher incidence and prevalence rates compared to Caucasians (38,39). For the reasons mentioned above, and the fact that six antigen matches are given to patients preferentially, irrespective of the time on the waiting list, in the years 2001–2002 the median number of days spent on the waiting list for Caucasians with ESRD was 1,312, while the number of days for African Americans and Hispanics was not even estimated since fewer than half of those on the list were transplanted (40). In keeping with historical data, improved rates of transplantation and the greater use of living donors in these patient populations would be expected to enhance life expectancy and patient survival. It should be noted that an attempt has recently been made to increase the availability of kidneys for minorities by the 2004 decision of UNOS to remove the necessity of B-locus matching, though the practical results of this decision are not yet fully known.

The Morality of Selling Organs

The last of the arguments discussed is best typified by the words of Mill, a 19th century philosopher, “For if (an opinion) were accepted as a result of argument, the refutation of the argument might shake the solidity of the conviction; but when it rests solely on feeling, the worse it fares in argumentative contest, the more persuaded its adherents are that their feeling must have some deeper ground, which the arguments do not reach; and while the feeling remains, it is always throwing up fresh intrenchments of argument to repair any breach in the old ” (41).

Thus, when the above arguments are countered, the invariable response is that the selling of human body parts is simply inherently immoral. Clearly, there is not much that can be said to convince someone with such an opinion of the need for selling kidneys; however, those who favor this argument should realize that people are engaged in the selling of body tissue in this country today. Young female college students are targeted by people who desperately want children, and are paid for their oocytes. There are men who choose to donate their sperm in

exchange for financial compensation. People also sell blood, and in fact are encouraged to do so in times of need. While blood donors end up regenerating the blood that they supply, they are also subject to minimal risk, including infection and a decreased blood store for the period it takes for their red blood cells to regenerate. Lastly, those who feel that a system for organ selling should not be legalized are turning a blind eye to the abuse that the people they are trying to protect are suffering at the hands of the black market. The reality is that the organ shortage needs to be addressed in a way that will increase donations and until it is, the sale of organs will continue on the black market. A strong argument can be made that the welfare of both those who are waiting for organs and those who are willing to sell them should not be compromised for the sake of philosophy. If someone is determined to accept the immorality of organ selling as a self-standing principle, they must also accept that there are other, equally important concerns that will be overridden as a result. Some of these include allowing people to die when they could have otherwise been saved and denying competent individuals the right to make choices.

Other Types of Financial Remuneration

While arguments in favor of the selling of kidneys may be persuasive, there is always the possibility of abuse if a pure market system is adopted. For example, there is the potential for kidneys to be traded over the Internet or through other difficult to regulate media. In response, other financial incentives have been proposed. One such alternative is a “lump sum” futures market approach whereby a donor could name either a person or a charitable beneficiary if his organs were procured for donation purposes. This system does not necessarily involve cash exchanges, but may include such alternatives as payment of funeral expenses. In this way, there might be less financial coercion for those willing to donate. It should be noted that in the recent article by Bryce et al, of the five types of benefits included in their survey all were favored by a majority of respondents; however, direct payment received the lowest level of support (84% medical expenses, 81% favored funeral benefits, 78% travel/lodging expenses, 73% charitable contributions, and 53% direct payment) (34).

The other model is one of renewable contracts in which people who consistently express the desire to donate are awarded preferential treatment for organs should the need arise. However, this model is problematic on several grounds, including the possibility of further worsening the inequity within the current system. It also raises the hypothetical philosophical quandary of elevating those who exhibit the willingness to undergo one act of beneficence above those who exhibit a lifetime of sustained beneficence on the part of another (42).

Summary

In conclusion, many programs have been developed over the years to try and increase the organ donation rate; however none of these programs have been completely successful and the number of patients on the kidney transplant waiting list continues to increase. Those against financial incentives for the donation of organs rely primarily on a Kantian argument of autonomy and arguments about the inherent lack of morality of organ selling. However, the reality we are facing requires an honest reappraisal of the situation. Financial incentives would very likely increase the pool of donors. While any system involving financial incentives would have to be carefully regulated, it has the potential to afford everyone involved much benefit. In addition to increasing the pool of donors, such a system may act preferentially to benefit those from lower income groups, who frequently have reduced access to transplantation. Whether the incentives take the form of renewable contracts, market based proposals, or lump sum future markets, it is important to prevent the current organ scarcity from becoming an even greater problem. In response to this problem, the Institute of Medicine is reportedly working with an expert panel to study various options for increasing organ donation, including the use

of financial incentives for both living and deceased donors (34,43). This has coincided with a growing interest in this topic among the general public as demonstrated by recent op-ed pieces in high profile newspapers such as The Economist (44,45).

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