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ABOUT COVER
Peer Reviewer of World Journal of Transplantation, Abbas Ghazanfar, MBBS, MRCSEng, FCPS, FHEA, FEBS, FRCS, FACS, Consultant Transplant Surgeon, Clinical Lead, Department of Renal and Transplant Surgery, St Georges University Hospitals NHS Foundation Trust, London SW17 0QT, United Kingdom. a.ghazanfar@nhs.net

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WJT mainly publishes articles reporting research results obtained in the field of transplantation and covering a wide range of topics including bone transplantation, brain tissue transplantation, corneal transplantation, descemet stripping endothelial keratoplasty, fetal tissue transplantation, heart transplantation, kidney transplantation, liver transplantation, lung transplantation, pancreas transplantation, skin transplantation, etc.

INDEXING/ABSTRACTING
The WJT is now abstracted and indexed in PubMed, PubMed Central, Scopus, Reference Citation Analysis, China National Knowledge Infrastructure, China Science and Technology Journal Database, and Superstar Journals Database. The WJT’s CiteScore for 2022 is 2.8 and Scopus CiteScore rank 2022: Transplantation is 23/51.
Renal allograft procurement from living unrelated donors in Iran: What falls under the eclipse

Saeed Taheri

**Abstract**
Renal transplantation is the treatment of choice for end stage kidney disease. However, despite all the efforts to expand the donor pool, the shortage of donors is increasing and as a consequence, there has been a significant increase in the number of patients on transplant waiting lists globally. Societies worldwide have employed different methods to address this, each with specific ethical concerns surrounding them. Over three decades ago, a governmentally regulated program of kidney transplantation from living unrelated donors was introduced in Iran and since practiced which has been the subject of hot debate in the literature. Nevertheless, despite all these extensive discussions and publications, several key aspects of the program have still not been properly elucidated and addressed. In this article, the author aims to illuminate some dark corners related to this issue that have largely escaped the notice of ethicists.

**Key Words:** Allograft procurement; Renal transplantation; Living unrelated donor; Organ market; Iran

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**Core Tip:** Iran's living unrelated kidney transplantation program has several limitations by its definition, but what is already in practice goes far beyond that and is actually a government legislated and regulated kidney market in which the laws and supports all essentially best serve the interests of brokers and financial agencies, and result in exploitation of the poor on either the recipient or donor.

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INTRODUCTION

Conventionally called “the Iranian Model of Kidney Transplantation”, the practice of kidney allograft transplantation procured from living unrelated (LUR) donors in Iran has been highly controversial, and for that reason as well as the unclear origins of the idea when it was introduced into the Iranian medical society, this terminology was avoided in this commentary. Although this topic has been widely tackled in the past by its proponents, opponents, and health-authorities [1-3], there are still several major aspects of the practice that have not been very well addressed. In this paper, I intend to discuss some of these complexities.

According to the latest report by the Iranian Society of Nephrology, 76.3% of all the kidney transplantations performed in Iran are from living donors[4], 86% of which has been reportedly from LUR donors[5]. With such a large share of the transplantation volume, rather extensive claims have been made in the literature as to the merits of LUR transplantation in eliminating the kidney transplant waiting lists; although in real practice, there are already two simultaneous waiting lists in Iran: One for recipients and the other for donors. To be precise, they are not actual waiting lists, as you do not need to wait a moment if you have enough money to pay.

KIDNEY FOR SALE

“Kidney for sale with the blood-group of AB from Tehran. Urgent need for money! Also ready to sell bone marrow, liver or any other part of the body that could be sold (for money) anywhere!” This is one of the huge number of advertisements that have been submitted to the Iranian Online Associations for Kidney Donation website[6] which provides free rooms to people who would want to get to the market, as kidney sellers, buyers or even brokers. Examples of advertisements from this website and other unofficial websites are provided in Table 1. A look at the advertisements reveals that kidney sellers likely concentrate on the price, while the buyers usually focus on the age (usually < 30 years), gender (male), overall health and the readily available laboratory reports which are supposed to be primarily paid and provided by the kidney sellers, as a prerequisite for finding a potential recipient.

A BRIEF INTRODUCTION

Upon its introduction to the Iranian health system, the LUR renal transplantation program had implemented some legal measures that were supposed to eliminate ethical concerns. In brief, renal patients as well as the potential LUR donors would separately contact a governmental regulation center which identifies suitable donor-recipient couplets and introduces them to transplantation centers (without them knowing each other prior to transplantation). All the expenses associated with the transplantation procedure and hospital costs would be fully covered by the government. After the procedure, the LUR donors would receive government-funded financial compensation and health insurance for one year, and “a majority” of them would also receive a gift from the recipient or charitable organizations. There would be no role for brokers or agencies in the process, and the program runs under the close scrutiny and surveillance of the Iranian Society for Organ Transplantation[1].

Whether or not the above-mentioned model sounds ethical, there are large practical deviations from the pronounced guidelines. During the past decades, the governmental “rewarding gift” to the LUR donors has shrunk from about 3000 United States dollar (USD) equivalent in local currency to less than 800 USD, with expectations to plunge even more due to the ongoing economic decline. Therefore, the government’s financial participation in donor compensation is rapidly becoming smaller, driving the recipients to provide the largest share of the payment. In other words, only wealthy patients could be sure of obtaining an allograft whenever they need to, and the less-resourceful individuals would be driven to sacrifice their last possessions (e.g., selling their family home) for this purpose; and finally the poorest people would have no chance in this market, meaning that even the limited governmental support would inevitably escape those who could not manage to provide the (much larger) remaining bulk of the payment, and the graft would go exclusively to the relatively more resourceful patients.

PREREQUISITES AND CONSEQUENCES OF INSTITUTING SUCH A PROGRAM

According to the above-mentioned evidence, what had been initially proclaimed to be a governmentally regulated and compensated altruistic organ donation is a myth now, and the only thing that one needs to get to the kidney market is simply finding a partner (a donor or a recipient) who would fulfill his/her (mainly financial) expectations, with apparent roles for brokers and agencies and no authoritarian surveillance. The burden of such a market could go far beyond what was mentioned above. Recently there was news about a father who was trying to sell his 19 mo-old child’s organs in Alborz Province and was arrested after the baby’s demise due to methadone overdose. This is probably not an exception to the ongoing economic decline. Therefore, the government’s financial participation in donor compensation is rapidly becoming smaller, driving the recipients to provide the largest share of the payment. In other words, only wealthy patients could be sure of obtaining an allograft whenever they need to, and the less-resourceful individuals would be driven to sacrifice their last possessions (e.g., selling their family home) for this purpose; and finally the poorest people would have no chance in this market, meaning that even the limited governmental support would inevitably escape those who could not manage to provide the (much larger) remaining bulk of the payment, and the graft would go exclusively to the relatively more resourceful patients.

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Table 1

<table>
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<tr>
<th>Donor Type</th>
<th>Compensation</th>
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<tr>
<td>LUR donor</td>
<td>&lt;800 USD</td>
</tr>
<tr>
<td>Recipient</td>
<td>3000 USD</td>
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Table 1 Examples of advertisements from kidney donors and buyers on an official website in Iran[6]

<table>
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<tr>
<th>Buyers' advertisements</th>
<th>Sellers' advertisements</th>
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<tbody>
<tr>
<td>Kidney buyer; blood group O+; man or woman; please only people with HLA reports contact; otherwise let’s not waste each other’s time (Tehran)</td>
<td>Kidney for sale; 42 yr old; blood group B+; due to financial crisis; no tobacco; no alcohol; bicycling each day for hours; and body works as infallible as a watch (East Azerbaijan)</td>
</tr>
<tr>
<td>Kidney buyer; blood group O; our patient is under dialysis and medical conditions is rapidly deteriorating; unemployed; lives in a renting house; some people promised helping; let’s help for God’s sake and his wife and children (Markazi)</td>
<td>Kidney for sale; 35 yr old man; blood group O+; me and my wife (blood group B+) both are ready to sell our kidneys; HLA testing ready for both; only recipients contact not dealers (brokers) (Tehran)</td>
</tr>
<tr>
<td>Kidney buyer; blood group O; I am under dialysis with complications; for God’s sake help me to get free of dialysis; I also have financial problems; the seller preferably a man less than 35 (West Azerbaijan)</td>
<td>Kidney for sale; 39 yr old man; HLA and ultrasonography tests are ready; no history of any disease; family consent ready; I need money for my kid’s illness; price would be fair and just (Kurdistan)</td>
</tr>
<tr>
<td>Kidney buyer; blood group AB; please don’t give “mind blowing” price so I can prepare it (East Azerbaijan)</td>
<td>Kidney for sale; 24 yr old woman; married; family consent ready; all tests and HLA report ready; ultrasonography report ready; weight; no tobacco; healthy in every aspect (Tehran)</td>
</tr>
<tr>
<td>Kidney buyer; blood group O+; applicants must have HLA report and family consent ready; age less than 30; I’d pay the hospital costs and tests would be paid after the procedure; (Mazandaran)</td>
<td>Kidney for sale; 32 yr old; all tests (HLA, CTA, United States, &amp; cardiologist letter) ready; hospital costs and labs should be covered by the buyer; price fair &amp; with mutual consent (Mazandaran)</td>
</tr>
<tr>
<td>Kidney buyer; blood group A+; urgent need for a kidney; seller should have all the tests ready; age less than 30; powerful body; no user of tobacco; alcohol or other junk; preferably from Tehran (Khuzestan)</td>
<td>Kidney, liver and all other purchasable organs for sale; 40 yr old man; blood group A+; HLA test ready; at service wherever on the earth for the procedure; people with financial problems please don’t contact (Tehran)</td>
</tr>
<tr>
<td>I am highly experienced in kidney transplantation; ready to give consultation services to both buyers and sellers; contact me! (Tehran)</td>
<td>Kidney for sale; blood group AR; 31 yr old; I am in debt and can’t pay for my house renting; please contact (West Azerbaijan)</td>
</tr>
</tbody>
</table>

Table 1 Examples of advertisements from kidney donors and buyers on an official website in Iran[6]

Although in the introduction of the living unrelated kidney transplantation in Iran it is declared that all the hospital costs would be totally paid by the government[1], yet in the advertisements, the kidney sellers and buyers are talking about who should pay for the hospital costs. HLA: Human leukocyte antigen; CTA: Computed tomography angiography.

endevors.

Such an organ procurement program as is already underway in Iran would not survive if the country managed to provide stable, productive and predictable economic conditions that offer people acceptable levels of livelihood in reasonable ways and time. In other words, there should be a constant state of “struggle for existence” to save the current organ market in Iran from collapse, and therefore any attempt at improving the country’s economy could be considered a threat to the practice that betrays the donor pool. This would definitely not be good news, but the solution is certainly not to sustain the country in a collapsing state: *i.e.*, to force people into the organ market, *e.g.*, to rent a house for a while or pay for a life-saving medical procedure.

The penetration of brokers and agencies into the practice has further complicated the already-controversial program exponentially. As conventionally only people with high political connections can intervene in such businesses, any attempt to change the existing order into states that sound more ethical would be expected to receive serious backlashes. They even seem to consider renal graft procurement from deceased donors as a threat to their business. In a popular TV show, a person who happened to be a member of the health care system told his story of being in coma (for several weeks), and claimed that his family were under pressure to permit the donation of his organs for transplantation. However, it was only due to his father’s heroic resistance against all the pressures that saved his life. It is not only in Iran but also in other parts of the world, that only brain-dead subjects, and not the comatose, who would be considered for organ donation.

**SAFETY DATA AND RESEARCH**

Despite decades of LUR kidney transplantation practice in Iran, some key aspects of concern have been hidden from the public and scientific literature. In fact there seems to be some undeclared red-lines that nobody could manage to cross. For example, despite overwhelming studies indicating the advantages of LUR transplantsations, there are no data on the (particularly long-term) physical and/or psychological burden of the procedure on the donors. I had a not-so-good experience in a research attempt on donors’ motivations and psychological burdens associated with LUR kidney transplantation, which was blocked suddenly and prematurely[7]. Moreover, the rationale behind some of the laboratory tests that are legally required for the procedure is unclear. For example, the introduction of potent immunosuppressive drugs and the shortage of available organs has eliminated the necessity for human leukocyte antigen (HLA) matching between the donors and recipients[1]. Actually the transplantation teams in Iran do not even look at the HLA test reports, yet it is still a mandatory part of the practice. Theoretically at least, the HLA reports could be used to find the best HLA matched donors only in exceptional cases, which offers no foundation to the large majority of donors or recipients to pay for this very important person service.
CONCLUSION

In conclusion, the LUR transplantation practice in Iran is associated with profound ethical concerns including discrimination, abuse, withholding information, and potential safety concerns. Should the practice persist, there would be a need for a major revision of the program in almost every aspect, in order to properly address all the issues of concern. Attempts at renovation of the practice should also warrant development of the country towards a more fruitful and prosperous economy and would not adversely affect transplantation.

FOOTNOTES

Author contributions: All the work was carried out by Taheri S, the sole author.

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Country/Territory of origin: Iran

ORCID number: Saeed Taheri 0000-0003-3034-0674.

Corresponding Author’s Membership in Professional Societies: New Lahijan Scientific Foundation, 44158-13166.

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