Women and Living Kidney Donation

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Objectives

- Identify factors that affect a woman’s decision to donate.
- Describe the impact age vs. gender vs. culture has on living organ donation.
- Discuss the predominance of women organ donors vs. men.

Why Living Donation?

- Wait time is 3-5 years for deceased donor.
- Number on the waiting list for deceased donor transplants continues to grow, yet the number of deceased donor kidneys has not.
- Patient and graft survival rates are better.
- Improved quality of life.
- Freedom from dialysis.
More Facts

- Nearly 400,000 Americans are on dialysis
  - More than 25% of Medicare spending ($42 billion) goes to treating kidney disease
- Two-thirds of dialysis patients die within five years of starting treatment; a lower survival rate than most cancer patients
- 144,000 Americans are living with a functioning kidney transplant
- 70,000 Americans are on waiting lists for kidneys

Sources: American Society of Nephrology, 2010
  OPTN/SRTR Data as of May 4, 2009
  Paired Donation Network, 7/2006

Benefits Of Living Donation

- Prevents long wait time on the list.
- Patients are transplanted earlier.
- Surgery can be scheduled.
- Medical outcome is usually superior to that of a deceased donor transplant.
Preemptive Transplantation

 Patients who are transplanted before they need dialysis do better and the kidney lasts longer than those who begin dialysis before transplantation.

 In living donors there is a 52% reduction in risk of graft failure in first year
 82% reduction in the second year
 86% reduction in subsequent years

Risks Of Living Donation

 Complications following surgery
 Longer recovery than expected
 Long term health risks are low
 Financial stress
 Emotional stress
Live Donor Transplants

- Living donor transplants constitute more than one third of all transplanted kidneys in the United States.
- The practice is widely accepted in the United States and throughout most of the world.

Main Motivations To Donate

- A wish to help
- Self-benefit from the recipient's improved health
- Identification with the recipient

Weak Incentives To Donate

- Pressure from others
- Religious motivation
- A sense of guilt regarding past relationships
- Improved self esteem
- A feeling of moral duty
- Logic; knowing you can have a normal life with one kidney
What Motivates Women to Donate?

Studies suggest that sociologic, economic and cultural factors influence the rate at which women voluntarily donate their kidneys and other organs.

Factors Influencing Women Donors

- Traditional caregiving role/ “care work”
- An extension of obligation to the family
- Greater volunteerism
- More compassionate
- Coercion/Vulnerability
- Love
- Financial/Economic influences

“Donation is akin to giving life. Could this be an extension of the maternal instinct?”

(Mohsin et al 2007)
What Motivates Men to Donate?
- Donation is heroic
- The expectation to receive something in return (Quid pro quo)

The Gender Imbalance
- Higher rates of female donation is a worldwide phenomenon. Women are more often donors and less likely to be recipients.
- Estimates suggest women account for two-thirds of all organ donations even though they comprise only one-half the population (Steinman, 2006)

Studies Show
- Studies done by Held et al and Gaylin et al indicate that when adjustments are made for age, ethnicity, PRA, income, primary renal disease, comorbidity and dialytic modalities women are less likely to receive a transplant than men.
- Women comprise higher rates of LRD and LUD transplants.
20+ years of data

- In 1988 in the United States, women were donors 55% of the time vs. men at 45%.
- In 1998, the rate of women donors increased to 58% vs. men at 42%.
- In 2010, the rate of women donors again increased to 59.14% vs. men at 40.86%.

Arizona statistics

- As of 12/27/10, Donor Network of Arizona reports there are 1,655,805 registered donors in Arizona.
- 930,455, or 56.2%, registered donors are women and 725,350, or 43.8%, are men.
- This is consistent with national data.

BGSTC

- At Banner Good Samaritan Transplant Center, 61.6% of the 352 living donor transplants done between 01/01/2005 and 12/31/2010 were from women. Men accounted for 38.3%.
In the United States:

- Organ Procurement Transplant Network (OPTN) data from 01/01/00-10/31/10 show that men account for 40.86% of living donors and women were 59.14% of the donors.
- Women account for 56%-68% of living kidney donors, depending on the non-spousal vs. spousal relationship. (Mohsin et al 2007)

In Switzerland:

- Data collected from the Swiss Organ Living Donor Health Registry (SOL-DHR) from 1993-2003 showed that of 631 registered donors, 65%, or 2/3, were women.
- Consequently, 64%, or 2/3, of the kidney recipients were men. (Thiel et al 2004)

In Norway:

- 57% of the living donors are females and 63% of the recipients were males. (Mohsin et al 2007)
In Germany:
- A review of 380 living donor transplants done in 1999 showed that mothers, at 27%, and wives, at 19%, comprised the largest number of donors. (Biller-Adorno 2002)

In India:
- From 2001-2005 a single center transplanted 682 patients.
  - 606 men received a renal transplant
  - 76 women received a renal transplant
  - 231 men were donors
  - 451 women were donors
  - Mothers comprised 32.1% of the total donors followed by wives at 15.7%
  - Out of 118 spousal transplants, 107 husbands were recipients vs. 11 wives (Bal et al 2007)

In Canada:
- In a study done by Zimmerman et al, more than 1/3, or 36%, of wives who were acceptable donors went on to donate.
  - This is in comparison to only 6.5% of acceptable husbands donating.
  - Additionally, only 16.1% of the husbands underwent histocompatibility testing vs. 44% of the wives.
In Iran:

“Iran model of kidney transplantations”
- Government controlled and compensated living unrelated donation program
- Volunteers register at the Society for Supporting Dialysis and Transplantation
- Donor may receive a gift from the recipient as well as government compensation.
- More male donors
  (Nourbala et al 2007)

The Gender Imbalance

- Gender distribution changes among different relations between donor and recipient.
- Biggest gender imbalance prevails among life partners followed by parental donors.
- According to UNOS data from 2008, 73% of spousal donations were wife to husband
- This is consistent with data from our center which shows 76.3% of wives donated to their husbands.

Spousal Donations

- A study done by Zimmerman et al showed that medical or immunological contraindications did not contribute to the low representation of husbands as donors.

Medical Reasons For The Gender Imbalance

- Men are more likely to meet an exclusion criterion for living donation
  - Bigger incidence of hypertension in men

Medical Reasons...

- In 2008 the National Heart, Lung and Blood Institute and Mayo Clinic list the following as the most common risk factors for Hypertension:
  - Older age
  - Race or ethnicity
  - Overweight or obesity
  - Gender
Researchers studied 834 men and 835 women aged 15 to 84 years old in an ethnically isolated group. Risk factors were assessed by collecting data on lifestyle, diet and demographics. Blood tests, genotyping and blood pressure measurements were performed.

### Differences

<table>
<thead>
<tr>
<th>Prevalence of hypertension</th>
<th>Lower in women</th>
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</thead>
<tbody>
<tr>
<td>Awareness</td>
<td>Lower in women</td>
</tr>
<tr>
<td>Treatment</td>
<td>Lower in women</td>
</tr>
<tr>
<td>Mean blood pressure</td>
<td>Lower in women</td>
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<td>(116/72 vs 119/75)</td>
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### Risk factors specific to males

- Physical activity
- Alcohol consumption
- Body weight and body mass index (BMI)
- Waist circumference
Medical Reasons For The Gender Imbalance

- Higher rate of cardiovascular morbidity and diabetes in older men
- The risk to acquire ESRD is higher in men than women.

Rates of ESRD in Network 15

- ESRD Network 15 data shows that in 2009 there were 5425 newly diagnosed chronic ESRD patients.
- Men comprised 3228, or 59.5%, of new ESRD cases and women had 2197, or 40.4% of the new cases.
- Of all new cases, diabetes followed by hypertension were the primary diagnosis causing ESRD.

Economic Reasons For The Gender Imbalance

- Majority of breadwinners are still men.
- The potential for financial harm if the donor is uncompensated for lost income pre/post transplant, unable to return to work, or permanent loss of income (in the event of a donor death).
- Families may be more comfortable with the female member donating.
Social Reasons For The Gender Imbalance

- Gender role; Heightened female sense of obligation to be a caregiver for family/loved ones.
- Are women less able to accept an offer to be a recipient?
  - Women, who usually see themselves as caregivers, end up in serious conflict when they need to accept care by others (Smith, 1995)

- The health of men is important due to their role as primary breadwinner.
- Men take longer to make the decision to donate.
- Men expect “negative repercussions” if they change their mind after they have offered to donate.
- Men are able to resist more easily the encouragement from family
- Men are less available:
  - Military obligations
  - Incarcerations

Why Is Gender Imbalance An Issue?

“Instead of simply congratulating women on their altruism, we need to ask about possible reasons for the existing gender imbalance and check it for matters of fairness and undue pressure on a vulnerable group.”

(Nikola 2002)
Solutions to the Imbalance

- Increase awareness of this issue among transplant center staff.
- Importance of donor education in altering attitudes.
- Search for flaws or biases in the selection process of potential donors.
- Men and women should be addressed in the same manner.

Solutions to the Imbalance

- The difficulty for women to say no when appealed to for help should be kept in mind and not abused.
- The transplant center staff should at least encourage male candidates for donation. However, overt solicitation of male family members by the transplant team would be an inappropriate means of correcting the disparity.

Solutions To The Imbalance

- Consider donor specific life insurance policies paid for by the transplant center.
- In Switzerland, 1 in 6 transplant centers offer insurance for donor death or disability due to organ donation.
- Insurance premium is paid by hospital administration.
Solutions To The Imbalance

- Coverage should be sufficient to compensate for the loss of a main breadwinner.
- The sum paid out should be high enough to maintain the quality of life similar to pre-donation level.

Expenses and loss of income should be reimbursed.
- Reimbursement should happen quickly.
  - Donors should not have to wait weeks or months.

Incentives For Change

- The Organ Donor Leave Act allows federal employees 30 days of paid leave to serve as an organ donor.
- The National Living Donor Assistance Center aids donors with travel, lodging, and food expenses.
The issue of gender imbalance in living donation has been well recognized, but not well understood. Additional research needs to be done on gender bias. Mass public education and awareness.