Access to Living Donor Kidney Transplantation in Nepal

Prakriti Shrestha, BA1, Sarah Rasmussen, BA1, Alvin Thomas, MSPH1, Susan Ferguson, PhD3, Allan Massie, PhD MHS1,2, Dorry Segev, MD PhD1,2, Pukar Shrestha, MBBS MS MRCS4.

1Department of Surgery, Johns Hopkins University School of Medicine, US. 2Department of Epidemiology, Johns Hopkins School of Public Health, US. 3Grinnell College, US. 4Human Organ Transplant Center, Bhaktapur, Nepal.

BACKGROUND

• There is an estimated 100 cases per million population (3000 cases per year) of ESRD in Nepal.
• Kidney transplantation is a relatively new and rapidly growing treatment modality in Nepal.
• Disparities in access to healthcare are greatly amplified in a developing country like Nepal due to social factors such as gender, caste/ethnicity, geography, and socioeconomic background.
• However, disparities in access to living donor kidney transplantation (LDKT) have not been reported since its establishment in Nepal.
• By law, donors must be related to recipients.
• We examine demographic factors that affect access to LDKT in Nepal.

METHODS

• We analyzed retrospective data from one of the two active transplant centers in Nepal to assess factors that affect access to LDKT.
• The study population is made up of 137 kidney transplant recipients, and their live donors from 2011-2016.
• Demographics of donors and recipients were compared to demographics for the Nepal population as ascertained from the Demographic and Health Surveys (DHS).

RESULTS

Table 1. Demographic distribution of kidney transplant recipients and live donors in comparison with national population data taken from the National Demographic and Health Survey of Nepal, 2011.

<table>
<thead>
<tr>
<th>Demographic variable</th>
<th>Recipient</th>
<th>National</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethnicty</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brahmin</td>
<td>15%</td>
<td>16%</td>
<td>p&lt;0.001</td>
</tr>
<tr>
<td>Chhetri</td>
<td>34%</td>
<td>19%</td>
<td></td>
</tr>
<tr>
<td>Newar</td>
<td>10%</td>
<td>4%</td>
<td></td>
</tr>
<tr>
<td>Janajati/Dalit</td>
<td>41%</td>
<td>61%</td>
<td></td>
</tr>
<tr>
<td>Residence (Development Region)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eastern</td>
<td>18%</td>
<td>24%</td>
<td>p&lt;0.001</td>
</tr>
<tr>
<td>Central</td>
<td>42%</td>
<td>25%</td>
<td></td>
</tr>
<tr>
<td>Western</td>
<td>28%</td>
<td>18%</td>
<td></td>
</tr>
<tr>
<td>Mid-Western</td>
<td>8%</td>
<td>18%</td>
<td></td>
</tr>
<tr>
<td>Far-Western</td>
<td>2%</td>
<td>15%</td>
<td></td>
</tr>
<tr>
<td>Foreign</td>
<td>2%</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Age (Median)</td>
<td>32 (28-40)</td>
<td>27 (20-36)</td>
<td>-</td>
</tr>
</tbody>
</table>

• There is a higher proportion of males in the transplant cohort compared to the general population. (Figure 2)
• Women make up a higher proportion of donors and a lower proportion of recipients. (Figure 2)
• There is a higher proportion of ‘higher castes’ (Chhetris and Newars) represented in the transplant cohort compared to the general population. (Table 1; p<0.001)
• Members of ‘lower castes’ (Janajati/Dalit) are disproportionately underrepresented among recipients. (Table 1; p<0.001)
• The central region and adjoining regions are disproportionately represented among recipients. (Table 1; p<0.001)
• 41% of donors are parents, 32% are spouses (41 wives, 3 husbands), 19% are siblings, 4% are children, and 4% are other family members.

CONCLUSION

• Socially marginalized groups such as women and lower caste groups are underrepresented in the transplant cohort.
• Similarly, patients farther from the transplant centers, both of which are located in central Nepal, are also underrepresented in the transplant cohort.
• The transplant community should target women, members of disadvantaged castes, and patients who live farther from the transplant centers to expand access to living donor kidney transplantation in Nepal.

Conflict of Interest: No authors have a conflict of interest to report.