

Gender disparity in kidney transplantation in Mongolia

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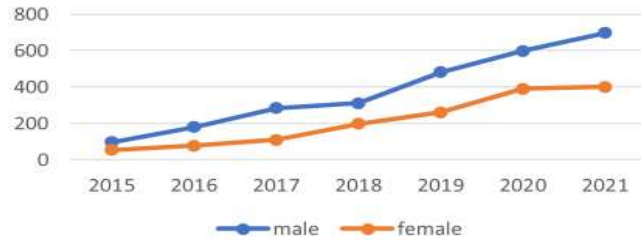


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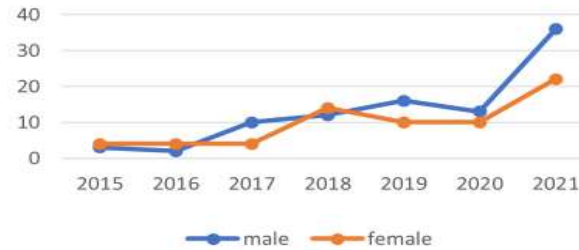


Gender imbalance in RRT in Mongolia

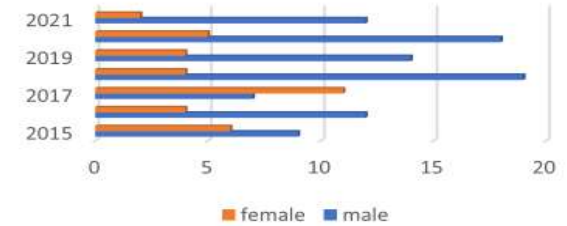
Number of dialysis patients on Hemodialysis



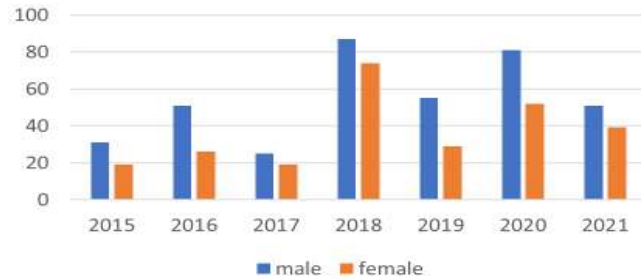
Number of dialysis patients on Peritoneal dialysis



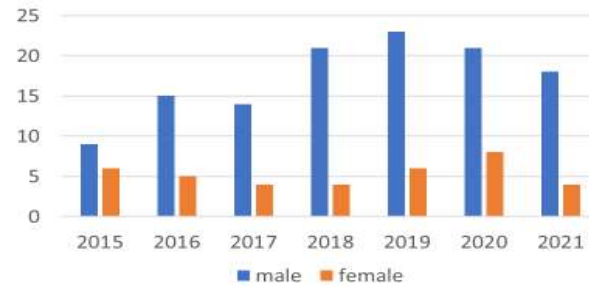
Overall number of female and male recipients in LDKT



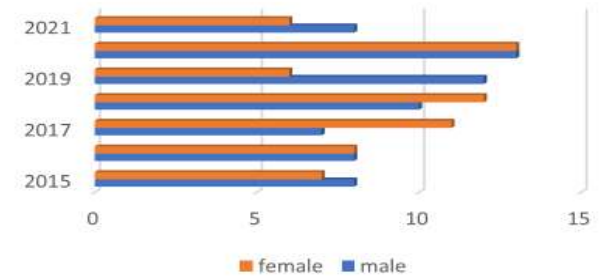
Number of female and male on the waiting list (incident)



Overall number of female and male recipients in total KT



Overall number of female and male donors in LDKT



Data from Mongolian nephrology association 2021



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Study plan:

- Study of donor characteristics according to gender (including ethnicity, religion and level of income, education, age, body weight, smoke, ect.)
- Study of recipients according to gender (follow-up renal function, sensitization status, obesity, pregnancy status and kidney function outcomes, ect.)
- Study of LDKT outcomes according to gender groups (follow-up kidney function, incidence of clinical events)
- From 2016 to 2022, a total of 198 patients who received living kidney transplants at the first central hospital of Mongolia participated in this study.

Study method:

- Retrospective study of patients on RRT in Mongolia since 2016-2022 (HD, PD, LDKT, DDKT, WL)
- We analyzed secondary data extracted from e-Health program which is official health system in FCHM in Mongolia.
- Statistical analysis on Stata 17.
- We used the ASTREG platform (<http://ecrf.astreg.org/>), a database platform affiliated with the AST and hosted by the Korean Organ Donation Registry Foundation.



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Result of study:

- We determined donor to recipient gender match as following groups: 1st group: male donor to male recipient /M-M/, 2^d group: male donor to female recipient /M-F/, 3th group: female donor to female recipient /F-F/ and 4th group: female donor to man recipient /F-M/.
- From 2016 to 2022 totally 198 kidney transplantation was performed, there were 163 (82.3%) living donor kidney transplantation. Parents relationship in gender group F-M and F-F composed 39.3% (24) and 40% (8), respectively, mothers was more donated her kidney to child than other groups. On the other hand, in M-F and M-M group, 52.9% (9) and 47.7% (31) of total donors were siblings (P>0.05).
- Females received a kidney from male and female donors with the same frequency (17 vs 20; P>0.05). Moreover, male recipients had more male donors, but doesn't statistically significant difference (61 females vs 65 males; P>0.05). The majority of donors aged below 45 years there was no statistically difference among study groups
- Regarding HLA typing miss much by 6 locus, 38.7% (63) of total recipients had 3 locus miss much. In all gender groups, majority percent of HLA typing was 6-3 locus, but, in F-F group, 6-3 locus HLA matching was higher than other groups (P=0.002).



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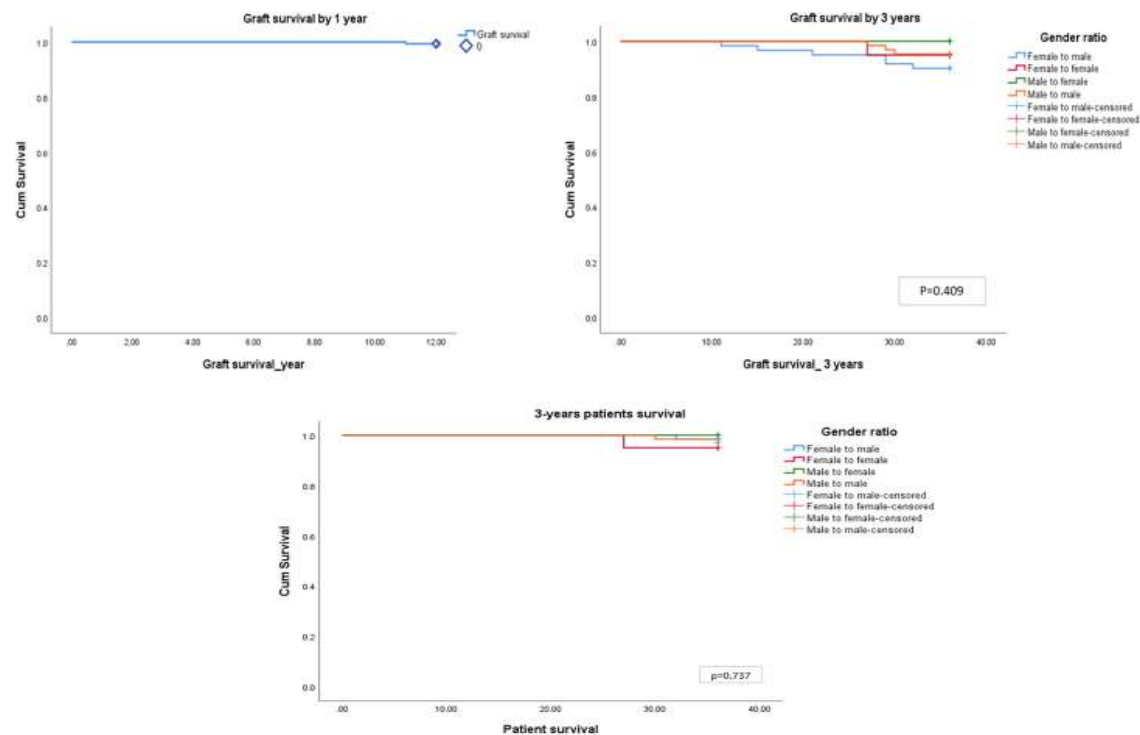
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HLA typing mismatches in living donor kidney transplantation gender difference.

	Gender groups /Donor and recipients/						Total	P value
	Locus	F-M	F	F-	M-F	M-		
HLA typing	6-1	6 9.8%	1 5.0%	0 0.0%	9 13.8%	16 9.8%	0.002	
	6-2	17 27.9%	1 5.0%	4 23.5%	5 7.7%	27 16.6%		
	6-3	23 37.7%	15 75.0%	4 23.5%	21 32.3%	63 38.7%		
	6-4	7 11.5%	2 10.0%	4 23.5%	12 18.5%	25 15.3%		
	6-5	2 3.3%	0 0.0%	3 17.6%	2 3.1%	7 4.3%		
	6-6	3 4.9%	1 5.0%	1 5.9%	12 18.5%	17 10.4%		
	6-0	3 4.9%	0 0.0%	1 5.9%	4 6.2%	8 4.9%		

One and three years graft survival by gender ratio



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Discussion and conclusion:

- From 2016 to 2022 totally 198 patients performed kidney transplantation and 76.8% was man. Our study included 168 liven donor kidney transplantation cases and separate in 4 group gender donor and recipients and analyzed disparity.
- For donor and recipients' relationship analysis was more likely donation siblings, but gender differences in male donor was higher than woman donors. This result was different of results most of another countries. What reason of this differences we can give some hypothesis, such as most of man donors (52.1%) was from countryside's farmers with low education and low economic status.
- Another hypothesis of man donors (58.3%) on the non-religion status. We compared gender disparity in parents' donation. In this analyses mothers more likely donated her kidney then fathers and waifs more donate kidney to husbands.
- Gender disparities in kidney transplantation are disproportionate in female-to-male donations. Women are more likely to become a living donor than they are to receive a living donor kidney donation. The graft survival advantage was in group female recipients of male donor kidneys.



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