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**The Effect of Dialysis Modality on Annual Mortality: a Prospective Cohort Study**

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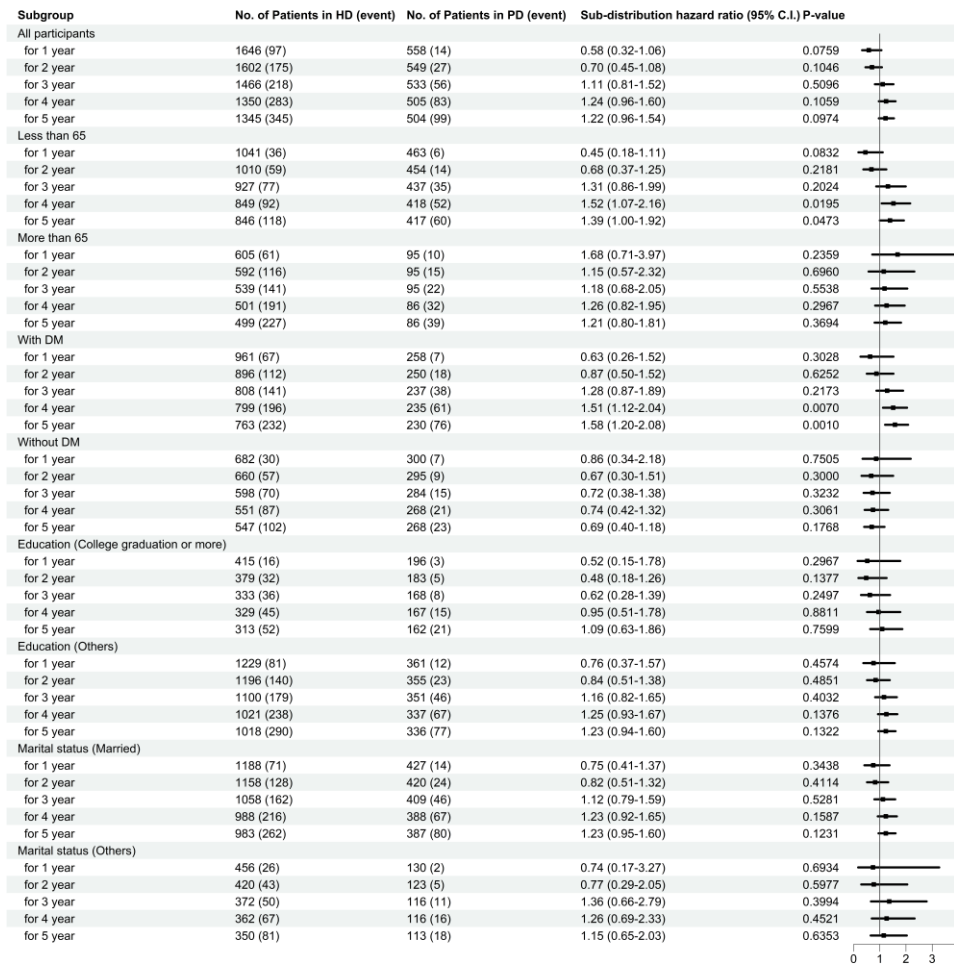
**Objectives :** Despite several studies on the effect of each dialysis modality on mortality, the subject is still controversial. We investigated the hazard rate of mortality for patients with incident end-stage renal disease with respect to initial dialysis modality (hemodialysis vs. peritoneal dialysis).

**Methods :** We used a nationwide, multicenter, prospective cohort of patients with end-stage renal disease who were undergoing dialysis in South Korea. Among the 2 207 patients, 1 647 (74.6%) underwent hemodialysis. We performed the intention-to-treatment analysis, and employed inverse probability treatment weighting to reduce bias and the weighted Fine and Gray model over the follow-up period. Landmark analysis was used to identify the changing effect of the dialysis modality on individuals who remained event-free at each landmark point.

**Results :** No significant difference in hazard rate was observed between the two dialysis modalities when all participants were considered. However, the hazard rate in the peritoneal dialysis group was significantly higher than that in the hemodialysis group among patients aged <65 years after 4- and 5-year follow-up. A similar pattern was observed among patients with diabetes mellitus. Landmark analysis showed that the hazard ratio in the peritoneal dialysis group was significantly higher than that in the hemodialysis group at 2 years in both the education-others and married groups.

**Conclusions :** This study could be useful for choosing a dialysis modality for young patients, especially in the presence of diabetes. Moreover, hemodialysis may be preferred to peritoneal dialysis when the follow-up duration is >3 years.

KSN 제출용\_Figure 2. Forest plot for sub-distribution hazard ratios of mortality.png



KSN 제출용\_Figure 2. Forest plot for sub-distribution hazard ratios of mortality.png

Subgroup	No. of Patients in HD (event)	No. of Patients in PD (event)	Sub-distribution hazard ratio (95% C.I.)	P-value
<b>All participants</b>				
Within 1year	1646 (97)	558 (14)	0.58 (0.32-1.06)	0.0757
1-2years	1486 (81)	528 (13)	0.82 (0.44-1.55)	0.5421
2-3years	1335 (66)	490 (28)	1.94 (1.21-3.12)	0.0063
3-4years	1158 (78)	433 (29)	1.56 (0.98-2.50)	0.0635
4-5years	987 (62)	376 (16)	1.16 (0.62-2.15)	0.6488
After 5 years	912 (208)	357 (61)	1.04 (0.76-1.41)	0.8288
<b>Less than 65</b>				
Within 1year	1041 (36)	463 (6)	0.45 (0.18-1.11)	0.0831
1-2years	945 (24)	443 (8)	0.99 (0.43-2.28)	0.9793
2-3years	866 (25)	411 (21)	2.71 (1.47-4.99)	0.0014
3-4years	768 (23)	362 (19)	2.50 (1.32-4.72)	0.0049
4-5years	680 (26)	324 (9)	1.15 (0.49-2.73)	0.7470
After 5 years	647 (103)	313 (38)	0.96 (0.65-1.43)	0.8409
<b>More than 65</b>				
Within 1year	605 (61)	95 (10)	1.68 (0.72-3.93)	0.2342
1-2years	541 (57)	85 (5)	0.54 (0.20-1.43)	0.2150
2-3years	469 (41)	78 (7)	1.18 (0.48-2.91)	0.7188
3-4years	390 (55)	70 (11)	1.47 (0.74-2.95)	0.2733
4-5years	307 (36)	51 (7)	1.04 (0.42-2.60)	0.9325
After 5 years	265 (105)	44 (23)	1.22 (0.71-2.11)	0.4752
<b>With DM</b>				
Within 1year	964 (67)	258 (7)	0.63 (0.26-1.53)	0.3092
1-2years	879 (53)	247 (10)	0.87 (0.41-1.85)	0.7150
2-3years	794 (44)	228 (22)	2.45 (1.41-4.26)	0.0014
3-4years	687 (56)	196 (23)	2.32 (1.35-3.99)	0.0023
4-5years	573 (47)	162 (14)	1.40 (0.72-2.75)	0.3228
After 5 years	520 (156)	145 (37)	0.96 (0.62-1.48)	0.8535
<b>Without DM</b>				
Within 1year	682 (30)	300 (7)	0.86 (0.34-2.18)	0.7501
1-2years	607 (28)	281 (2)	0.52 (0.11-2.46)	0.4063
2-3years	541 (22)	261 (6)	0.71 (0.28-1.83)	0.4790
3-4years	471 (22)	237 (7)	0.73 (0.31-1.76)	0.4886
4-5years	414 (15)	214 (2)	0.36 (0.08-1.60)	0.1821
After 5 years	392 (52)	212 (24)	1.11 (0.67-1.86)	0.6793
<b>Education (college graduation or more)</b>				
Within 1year	417 (16)	197 (3)	0.52 (0.15-1.79)	0.2997
1-2years	374 (19)	186 (2)	0.41 (0.09-1.77)	0.2309
2-3years	330 (10)	175 (4)	0.97 (0.28-3.35)	0.9614
3-4years	286 (9)	153 (6)	1.53 (0.52-4.49)	0.4389
4-5years	248 (10)	132 (6)	1.70 (0.55-5.25)	0.3571
After 5 years	236 (44)	126 (18)	1.03 (0.57-1.84)	0.9273
<b>Education (others)</b>				
Within 1year	1229 (81)	361 (12)	0.76 (0.37-1.57)	0.4574
1-2years	1112 (62)	342 (11)	0.91 (0.46-1.80)	0.7772
2-3years	1005 (56)	314 (23)	1.95 (1.17-3.27)	0.0107
3-4years	872 (69)	279 (22)	1.41 (0.83-2.39)	0.2027
4-5years	739 (52)	244 (10)	1.10 (0.52-2.32)	0.7969
After 5 years	676 (164)	231 (43)	1.02 (0.69-1.49)	0.9349
<b>Marital status (married)</b>				
Within 1year	1188 (71)	427 (14)	0.75 (0.41-1.37)	0.3436
1-2years	1072 (60)	403 (10)	0.87 (0.42-1.83)	0.7197
2-3years	964 (50)	374 (22)	1.85 (1.07-3.21)	0.0284
3-4years	831 (61)	335 (24)	1.66 (0.97-2.84)	0.0622
4-5years	715 (46)	291 (13)	1.25 (0.62-2.55)	0.5358
After 5 years	657 (158)	276 (52)	1.09 (0.77-1.56)	0.6239
<b>Marital status (others)</b>				
Within 1year	458 (26)	131 (2)	0.77 (0.18-3.34)	0.7216
1-2years	414 (21)	125 (3)	0.68 (0.20-2.34)	0.5434
2-3years	371 (16)	115 (6)	2.32 (0.84-6.39)	0.1051
3-4years	327 (17)	97 (5)	1.40 (0.43-4.57)	0.5757
4-5years	272 (16)	84 (2)	0.60 (0.11-3.26)	0.5557
After 5 years	255 (50)	81 (9)	1.07 (0.48-2.38)	0.8624

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