Time to recovery from haemodialysis-trial by drugs

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OBJECTIVES

Patient recovery time (RT) from the effects of hemodialysis (HD) has been proposed as an indicator of the impact of HD on quality of life (QoL), in recent studies (1).
Patients on hospital and home therapies have different disease burden and consequently, different pill burden.
We examined RT in the two groups and associations between patient reported recovery time and patient medication burden in home and hospital HD patients.

METHODS

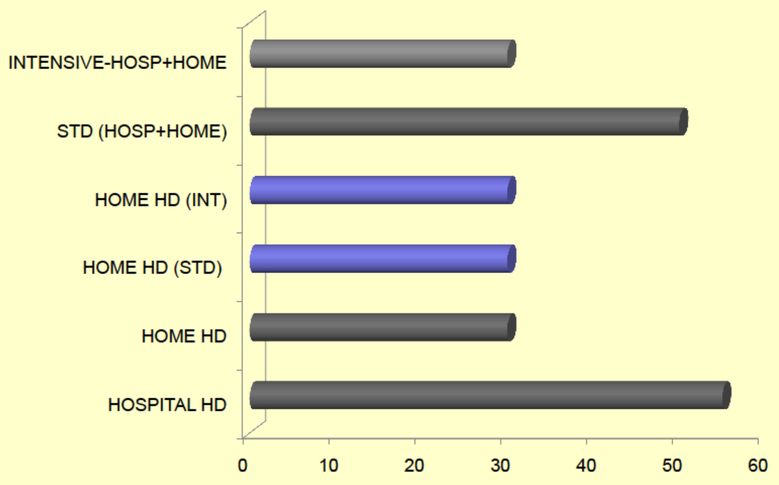
Data are derived from the cross-sectional arm of the multi-centre, UK based, BASIC-HHD study (2). 288 patients responded to the question, 'how long does it take for you to recover from a haemodialysis session?'

91 patients (31.8%) of study population did home haemodialysis. Demographic and clinical information including medications was ascertained from patients and electronic medical records.

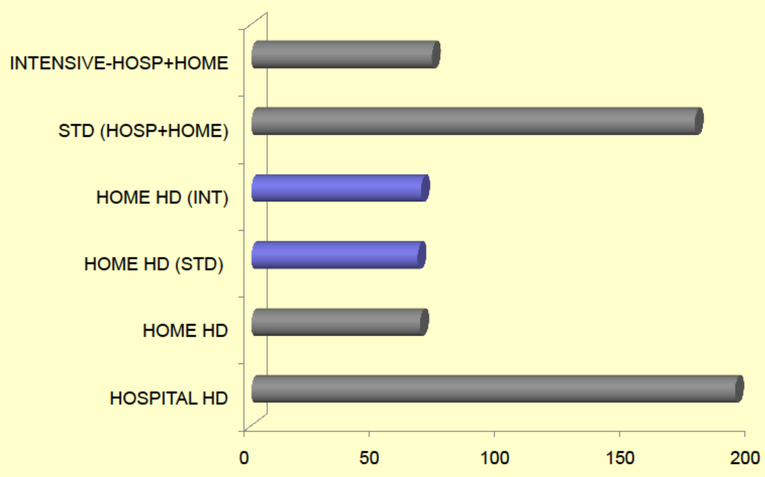
Patients responded to the question, 'Typically, how long does it take you to recover from a hemodialysis session'? Recovery time (RT) was treated as a continuous variable in this analysis. Mean and median RT in minutes in recipients of home and hospital haemodialysis is presented alongside conventional (≤3/week) and intensive HD (>3/week) regimens

RESULTS

Median RT in minutes



Mean RT in minutes



Drug Class	Variable	Unadjusted	p	Adjusted	p
ACEI or ARB	No	48.80 (37.84, 62.55)	0.76	44.60 (32.30, 60.95)	0.73
	Yes	52.07 (37.38, 71.85)		48.04 (33.13, 68.71)	
Diuretics	No	51.00 (40.51, 63.91)	0.72	48.73 (36.35, 64.78)	0.29
	Yes	46.90 (30.90, 70.05)		37.69 (23.37, 59.22)	
EPO	No	48.20 (30.07, 75.72)	0.86	47.09 (28.17, 76.79)	0.91
	Yes	50.41 (40.33, 62.72)		45.70 (34.23, 60.51)	
CNS drugs	No	49.49 (39.91, 61.11)	0.79	44.90 (33.46, 59.68)	0.66
	Yes	53.58 (30.16, 92.61)		51.43 (28.77, 89.39)	
Anti-depressants	No	45.46 (36.49, 56.37)	0.03	42.04 (31.45, 55.70)	0.05
	Yes	81.22 (50.08, 129.96)		70.34 (42.02, 115.67)	
Number of anti-hypertensive drugs		0.968 (0.849, 1.104)	0.63	0.926 (0.811, 1.057)	0.25
Pill burden		1.066 (1.004, 1.132)	0.03	1.053 (0.990, 1.120)	0.09

Table 1: Combined Cohort Analysis. Adjustment for age, diabetes and dialysis intensity

Drug Class	Variable	Unadjusted	p	Adjusted	p
ACEI or ARB	No	67.37 (49.93, 90.35)	0.74	68.85 (49.93, 94.31)	0.67
	Yes	62.02 (41.48, 91.63)		61.75 (40.82, 92.23)	
Diuretics	No	64.28 (48.68, 84.42)	0.81	66.52 (49.01, 89.63)	0.94
	Yes	68.70 (42.65, 108.98)		65.18 (39.86, 104.70)	
EPO	No	67.82 (37.22, 120.60)	0.89	75.08 (40.20, 136.78)	0.65
	Yes	64.92 (49.95, 83.95)		64.62 (48.42, 85.10)	
CNS drugs	No	66.19 (51.43, 84.81)	0.76	67.31 (51.05, 88.36)	0.69
	Yes	58.67 (26.95, 121.86)		57.43 (26.24, 119.79)	
Anti-depressants	No	58.24 (44.81, 75.29)	0.03	58.37 (43.76, 77.37)	0.04
	Yes	114.41 (65.25, 197.98)		112.45 (63.83, 195.42)	
Number of anti -- hypertensive drugs		0.912 (0.783, 1.063)	0.24	0.897 (0.768, 1.048)	0.17
Pill burden		1.037 (0.964, 1.115)	0.33	1.027 (0.952, 1.108)	0.49

Table 2: Hospital HD Cohort Analysis. Adjustment for age, diabetes

Drug Class	Variable	Unadjusted	p	Adjusted	p
ACEI or ARB	No	22.75 (14.12, 35.28)	0.19	30.77 (16.33, 54.95)	0.21
	Yes	36.20 (20.72, 60.99)		47.56 (24.14, 89.77)	
Diuretics	No	31.37 (21.22, 45.44)	0.12	42.47 (24.08, 72.45)	0.13
	Yes	15.63 (5.91, 34.00)		21.79 (7.89, 50.63)	
EPO	No	28.70 (13.50, 56.40)	0.87	35.45 (16.09, 72.63)	0.91
	Yes	26.87 (17.72, 39.72)		37.18 (19.77, 66.78)	
CNS drugs	No	24.09 (16.11, 35.09)	0.13	32.41 (18.15, 55.48)	0.15
	Yes	47.79 (21.37, 100.69)		61.42 (25.33, 140.47)	
Anti-depressants	No	26.48 (17.90, 38.28)	0.67	35.41 (19.76, 60.91)	0.72
	Yes	32.72 (12.30, 77.25)		42.09 (15.32, 104.19)	
Number of anti-hypertensive drugs		1.020 (0.800, 1.300)	0.87	1.011 (0.787, 1.297)	0.93
Pill burden		1.111 (1.005, 1.228)	0.04	1.098 (0.988, 1.220)	0.08

Table 3: Home HD Cohort Analysis. Adjustment for age, diabetes and dialysis intensity

1. In our study cohort, recipients of home HD report similar RT irrespective of dialysis intensity.
2. In the unadjusted analysis of the total cohort, each additional medication is associated with an increase in RT by approximately 6.6% (95% CI: 0.4% increase, 13.2% increase). Pill burden and anti-depressants are associated with RT. After adjustment for other important variables, anti-depressants variable remains significant.
3. Within the hospital HD cohort, in both unadjusted and adjusted analysis, use of anti-depressant drugs is associated with RT.
4. In the home cohort, unadjusted analysis shows that pill burden is associated with RT. In the adjusted analysis, none of the variables are significantly associated with RT (pill burden is now significant at the 10% level, not the 5% level).

CONCLUSIONS

Time to recovery from haemodialysis represents the composite of physiological and psychological health status of individuals. It is important to look beyond dialysis intensity for solutions to this multidimensional problem.

In recipients of hospital HD, recovery time is associated with anti-depressant use. It is also likely that underlying depression is associated with reported prolonged recovery from haemodialysis.

Thoughtful prescription of drugs is important and medications reconciliation is an important aspect of dialysis care delivery.

The role of patient's location for haemodialysis (home vs. hospital), may play a significant role in improving time to recovery from haemodialysis.

REFERENCES

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