# Importance of Daily Home HD in Obese Patients **Data From the European Cohort KIHDNEy**

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#### **INTRODUCTION**

Obesity (BMI>30kg/m<sup>2</sup>) is steadily increasing among HD patients (15-26% in Western Europe). It is responsible for high morbidity and mortality due to multiple metabolic abnormalities and cardiovascular risk factors, including insulin resistance, infections, hypertension, and sleep apnea, and for a reduction in mobility. Because of the increased risk of mortality from complications, peritoneal dialysis is not a viable treatment option (ANZData registry) and targeting an adequate Kt/V in HD is poorly evaluated because of a V overestimated by usual formulas.



## **METHODS**

The retrospective European Cohort Study KIHDNEy involved 219 patients on daily home hemodialysis with NSO, followed in 5 European countries and evaluated at 6 and 12 months.

	BMIn	BMIh	р
Patients (n)	46.8% (101)	21.8% (47)	
Average BMI	21.8	36.3	
(BMI Range)	(13.3-24.9)	(30.1-53.7)	
Age (years)	-	51.7±11.4	
Male	-	68.1%	
≥6 sessions/week	-	66.0%	
Hours/week	14.0±3.6	16.6±3,1	
Ultrafitration rate (ml/kg/h)	7.4±5,0	4.6±3,5	
$\leq 25L/session$	75.2%	38.3%	
stdKt/V	2.6	2.5	0.59
Phosphoremia	-	1.63	0.17
(Variation)		(-4%, p=0.44)	
Phosphate binders	-	2.53	0.31
		(-17%, p=0.04)	
Antihypertensive	-	0.91	0.75
		(-37%, p=0.01)	

Table 1. Demographics, prescription and outcomes in BMIn and BMIh groups after 12 months follow-up

#### RESULTS

In this cohort, 101 patients (46.8%) had a normal BMI (n), averaging 21.8 kg/m<sup>2</sup>, while 47 patients (21.8%) had a high BMI (h), averaging 36.3 kg/m<sup>2</sup> (30.1–53.7). Of the BMIh patients, 68.1% were male and the average age was 51.7±11.4 years.







Figure 2. Variation in phosphatemia, phosphate binders and antihypertensive medications in BMIh group

## **CONCLUSIONS**

- The number of sessions/week was  $\geq 6$  in 66.0% of the BMIh with a cumulative duration of 16.6±3.1hours/week (h/w) vs. 13.9±2.1 for BMIn, the hourly ultrafiltration rate (UFR) was low, at 4.6±3.5ml/kg/h vs. 7.4±5.0, and the dialysate volume was greater: only 38.3% used ≤25L/session vs. 75.2% in BMIn. The mean stdKt/V, 2.5 (p=0.91), of BMIh at 6 and 12 months did not vary, and was equivalent to that of BMIn, 2.6. [Figure 1]
- Mean baseline phosphoremia did not change at 6 and 12 months, 1.70, 1.73 and 1.63mmol/l respectively (p=0.44), phosphate binders decreased by 17% (3.07, 2.92 and 2.53 tablets (p=0.04), and the number of basic antihypertensive tablets fell from 1.44 at baseline to 1.03 at 6 months and 0.91 tablets at 12 months, an overall decrease of 37%. [Figure 2] For each of these markers, there was no significant difference between BMIh and BMIn: p=0.59, 0.17, 0.31 and 0.75 respectively for stdKt/V, phosphoremia, phosphate binders and antihypertensives. [Table 1]

There is no consensus about the proper dialysis modality for obese patients. The contribution of the frequency in DHHD shows biological improvements at 6 and 12 months follow-up, in normal and high BMI patients. DHHD with low dialysate volume is adequate for obese patients. With customized prescription, outcomes are equivalent to normal size patients: high clearance, low ultrafiltration, good control of hypertension and phosphoremia.

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