

## INTRODUCTION

The DaVita EMPOWER® program is designed to enable patients with CKD to work with their health care team and to make informed decisions for their health and future care. The program includes classroom sessions to educate patients with CKD on management of co-morbidities, preservation of renal function, improvement of quality of life and selection of dialysis modality.

To test the hypothesis that patient education in the pre-dialysis period enhances transition to dialysis, we evaluated the effect of a structured CKD education program on the likelihood of selecting a home treatment modality, initiating dialysis in an outpatient setting, or, for hemodialysis, starting with the preferred access (arteriovenous fistulae (AVF)).

## METHODOLOGY

- Retrospective, cohort analysis of a structured CKD program in the San Antonio, TX area.
- The program started in June 2007. A full time educator taught, on average, 32 patients/month from 4 participating nephrology practices.
- We compared results in patients who attended the structured CKD program (intervention group) to those seen in non-attending patients (comparator group).
- Of the patients who attended at least one CKD class, we tracked the patients who chose to initiate dialysis treatment at a DaVita facility (intervention; n=52) in 2008. Patients in the comparator group (n=94) were treated at the same dialysis facilities but received no structured CKD education.

## RESULTS

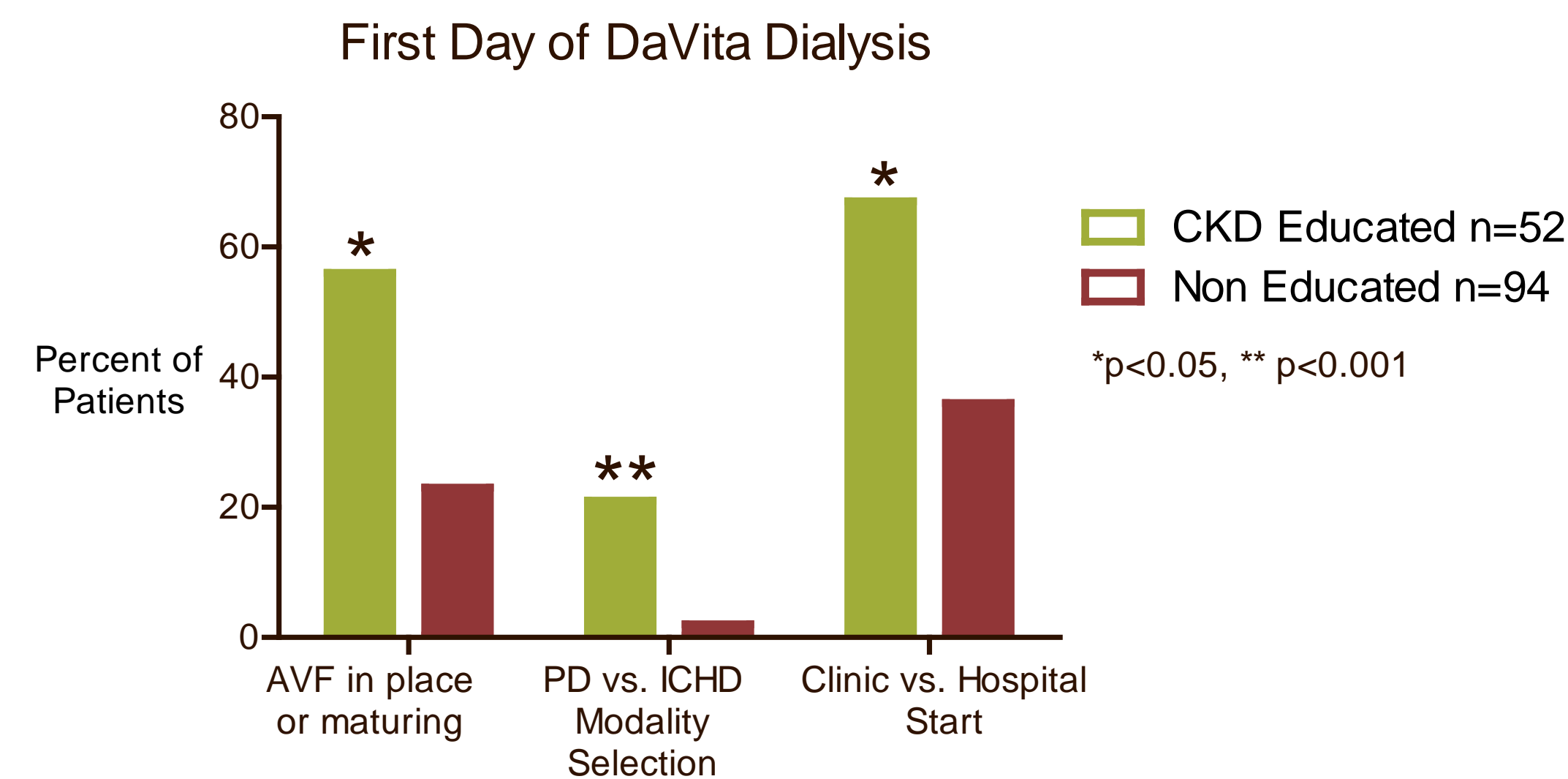


Figure 1. Differences between CKD Educated and Non-Educated Patients on the First Day of Dialysis at DaVita

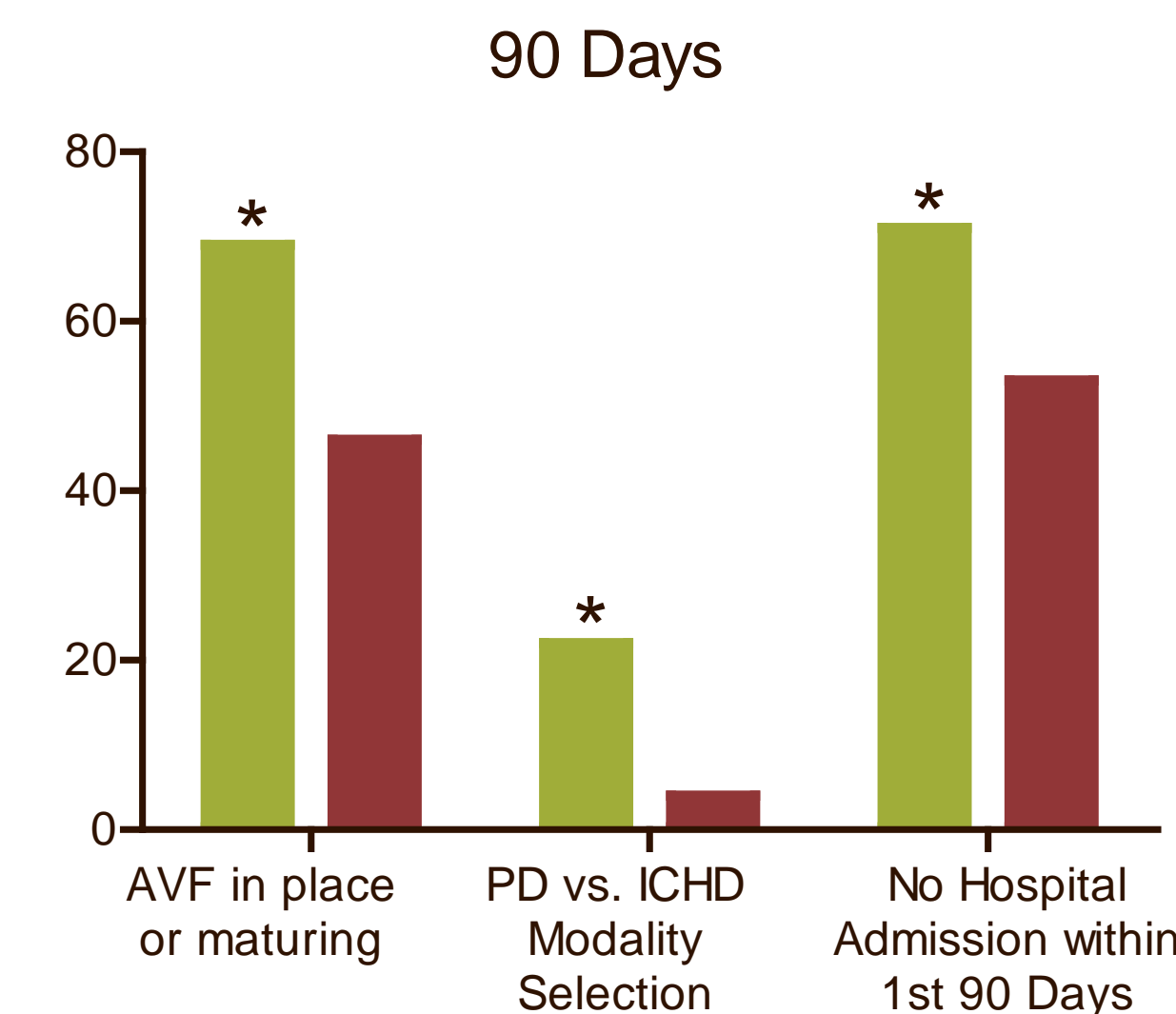


Figure 2. Differences between CKD Educated and Non-Educated Patients after 90 Days on Dialysis

Table 1. Patients Identified vs. Not Identified for CKD Education

Characteristic	Identified (%) N=67	Not Identified (%) N=79	P-value significant at (<.05)
Gender: Male (n=78)	41.0	59.0	0.2506
Age (mean ± SD)	62.3 ± 16.1	65.9 ± 14.9	0.1592
Race			0.1441
White (n=136)	47.8	52.2	
Black/African American (n=10)	20.0	80.0	
Ethnicity: Hispanic/Latino Yes (n=72)	52.8	47.2	0.0991
Employment Status Working (n=27)	55.6	44.4	0.4290
Nephrologist Care			0.1614
<6 months (n=14)	35.7	64.3	
6-12 months (n=47)	40.4	59.6	
>12 months (n=74)	54.1	45.9	
Insurance			0.3924
Commercial (n=50)	50.0	50.0	
Medicaid (n=6)	66.7	33.3	
Medicare (n=90)	42.2	57.8	
Charlson Index (mean ± SD)	5.6 ± 1.84	5.8 ± 1.91	0.5583

Table 2. Identified and CKD Educated Patients vs. Identified and Non-Educated Patients

Characteristic	Identified & CKD Educated (%) N=52	Identified Non-Educated (%) N=15	P-value significant at (<.05)
Gender: Male (n=32)	81.3	18.7	0.5663
Age (mean ± SD)	62.0 ± 16.7	63.5 ± 14.0	0.7551
Race			N/S
White (n=65)	76.9	23.1	
Black/African Am. (n=2)	100.0	---	
Ethnicity: Hispanic/Latino Yes (n=38)	76.3	23.7	N/S
Employment Status Working (n=15)	80.0	20.0	N/S
Nephrologist Care			0.0611
<6 months (n=5)	40.0	60.0	
6-12 months (n=19)	68.4	31.6	
>12 months (n=40)	85.0	15.0	
Insurance			0.9550
Commercial (n=25)	36.5	40.0	
Medicaid (n=4)	5.8	6.7	
Medicare (n=38)	57.7	53.3	
Charlson Index (mean ± SD)	5.6 ± 1.9	5.7 ± 1.7	0.7958

Table 3. CKD-Educated Patients vs. CKD Non-Educated Patients

Characteristic	CKD Educated (%) N=52	CKD Non-Educated (%) N=94	P-value significant at (<.05)
Gender: Male (n=77)	33.8	66.2	N/S
Age (mean ± SD)	62.0 ± 16.7	65.5 ± 14.8	N/S
Race			N/S
White (n=135)	37.0	63.0	
Black/African Am. (n=10)	20.0	80.0	
Ethnicity: Hispanic/Latino Yes (n=72)	40.3	59.7	N/S
Employment Status Working (n=31)	51.6	48.4	N/S
Nephrologist Care			0.04
<6 months (n=14)	14.3	85.7	
6-12 months (n=47)	27.7	72.3	
>12 months (n=73)	46.6	53.4	
Insurance			N/S
Commercial (n=36)	36.5	40.0	
Medicaid (n=6)	50.0	50.0	
Medicare (n=90)	33.3	66.7	
Charlson Index (mean ± SD)	5.6 ± 1.9	5.8 ± 1.9	N/S

## CONCLUSIONS

- No statistically significant differences in demographic characteristics or clinical profiles for patients in the intervention group compared to the comparator group other than length of time under a nephrologists' care (Tables 1-3).
  - When stratified by length of time under a nephrologists' care, further analysis revealed better outcomes in educated patients.
- CKD education increased AVF placement, home modality selection and controlled outpatient dialysis starts (Figure 1).
- These differences persisted at 90 days after the start of dialysis (Figure 2).
- CKD education did not affect albumin, hemoglobin or 90 day mortality.

## KEY LEARNINGS

- Patients receiving structured pre-dialysis education were more likely to:
  - select a home modality
  - start hemodialysis with an AVF
  - avoid initiating dialysis in the hospital
  - stay out of the hospital in the 1st 90 days
- Future studies will use propensity score matching on a larger set of patients to provide a level of randomization. This should enhance the comparison of educated versus not educated patients.

We thank the patients who participated in this study and DaVita Clinical Research® for support in preparing this poster. DCR is committed to advancing the knowledge and practice of kidney care. Correspondence: Susan.wright@davita.com  
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