

Impact of Dialysis Modality on Hospitalization in Patients with ESRD

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INTRODUCTION

Objective: To determine if different dialysis modalities are associated with different hospitalization rates among patients with end-stage renal disease (ESRD).

Patients with ESRD have disproportionately high hospitalization rates compared to non-ESRD Medicare patients, primarily owing to cardiovascular disease, access infections, and access failures.

We compared hospitalization rates among ESRD patients undergoing 4 different dialysis modalities with varying durations and frequencies of dialysis sessions.

METHODOLOGY

A retrospective, cross sectional study compared mean hospital admissions and hospitalized days per patient in August 2008 across 4 treatment groups.

- Conventional, in-center hemodialysis (ICHD; n=100,147)
- Short daily hemodialysis (SDHD; n=1,455)
- Nocturnal, in-center hemodialysis (NHD; n=767)
- Peritoneal dialysis (PD; n=9,156)

Hospitalization rates were adjusted to account for age, gender, race, vintage, and presence of diabetes.

RESULTS

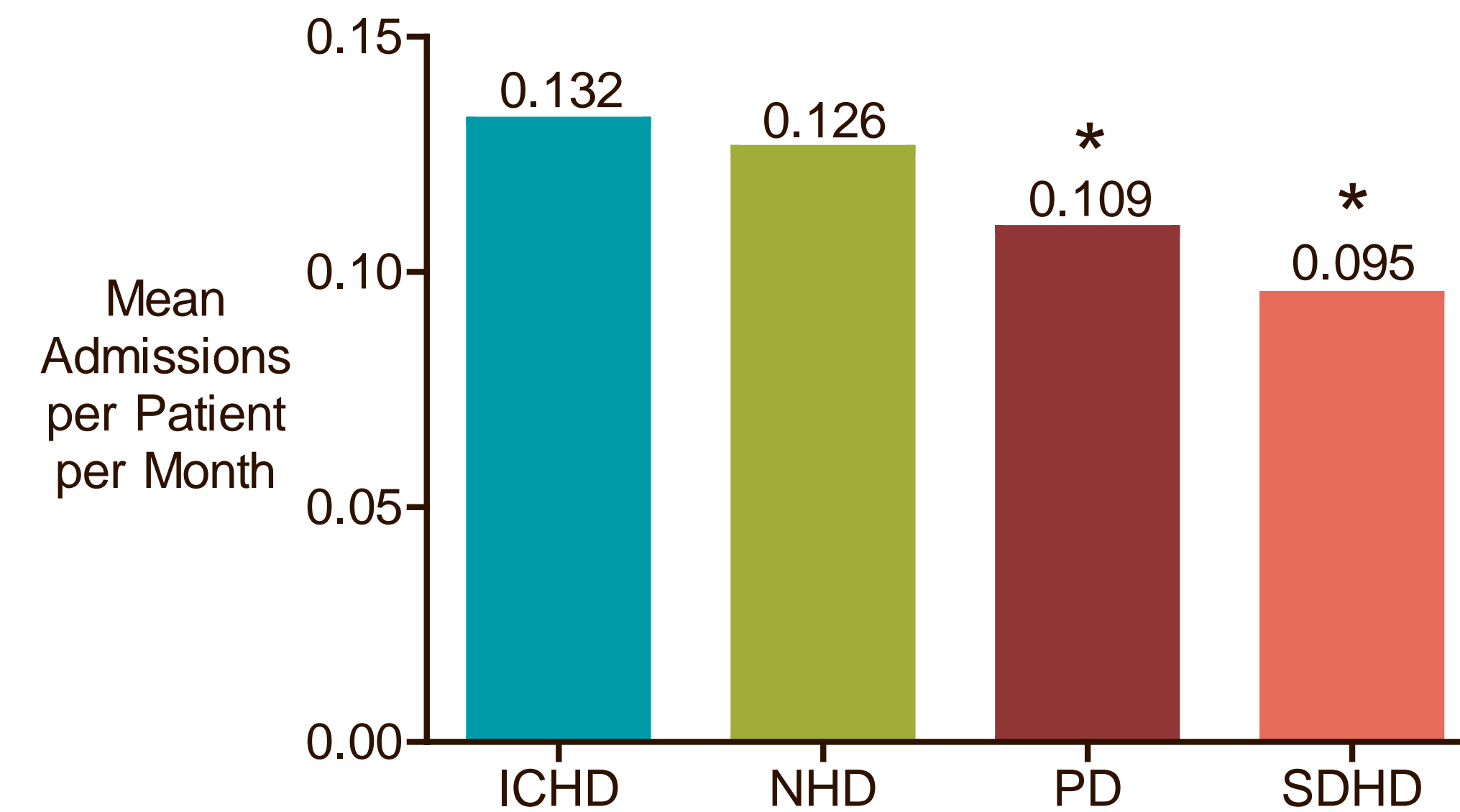


Figure 1. Hospital Admission Rate Across Modalities, * $p < 0.05$

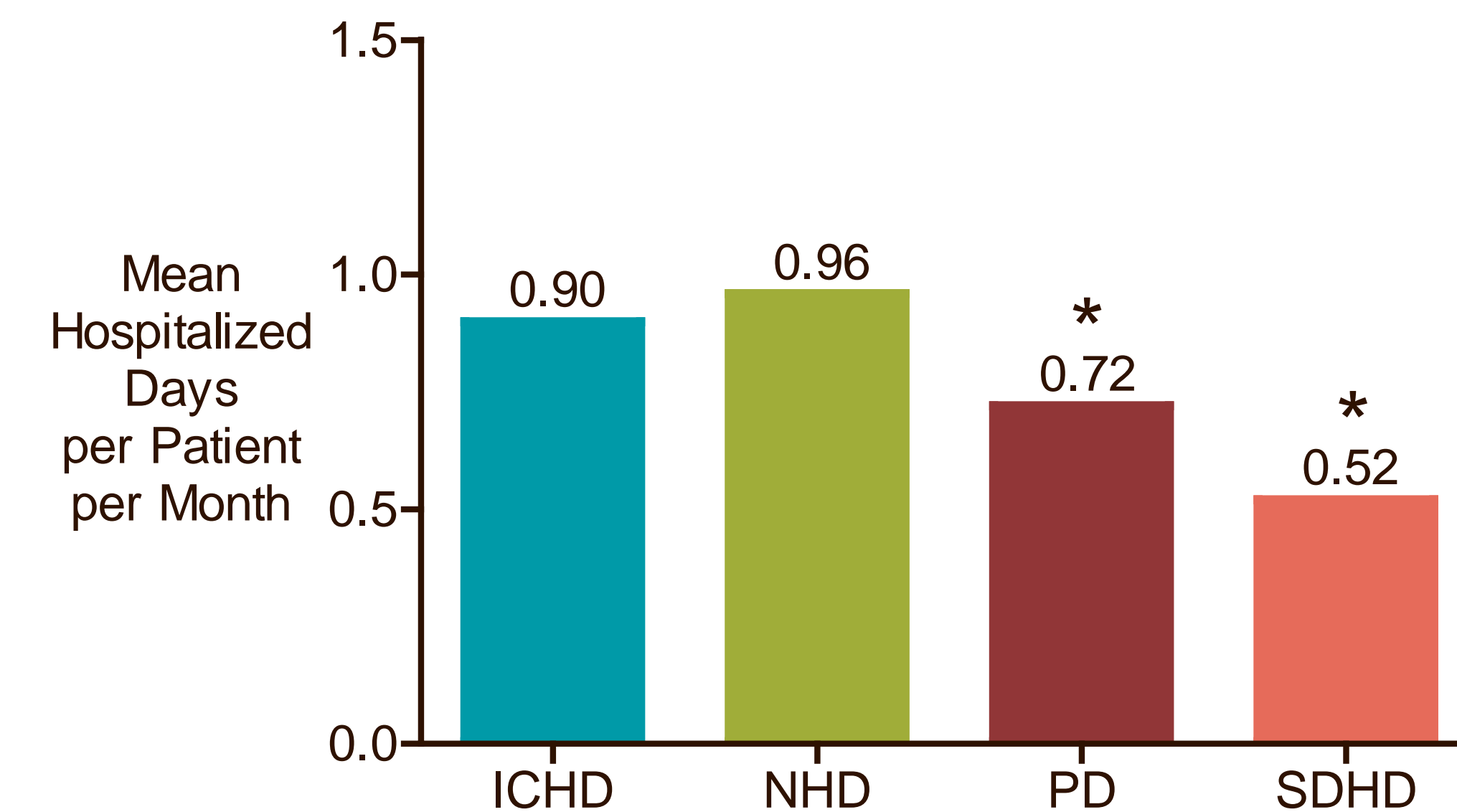


Figure 2. Hospitalized Days Across Modalities, * $p < 0.05$

CONCLUSIONS

- On average, ICHD patients received 10.4 hours of dialysis per week over 3 sessions, SDHD patients received 13.5 hours/week/5 sessions, and NHD patients received 19.8 hours/week/3 sessions.
- Hospital admissions (Figure 1) and hospitalized days (Figure 2) per patient per month were significantly lower in the PD and SDHD groups compared to ICHD.
- No significant impact of NHD was found but this may be due to the small sample size which may limit the ability to detect differences.
- Given that this is a retrospective study, drawing causal associations may require a prospective clinical trial.

KEY LEARNINGS

- ✓ SDHD and PD are associated with reduced hospitalization rates compared to ICHD.
- ✓ This benefit may result from greater treatment time per week (and more sessions, for SDHD) compared to conventional hemodialysis.

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