

Comparison of Patient Mortality Among Four Dialysis Modalities

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INTRODUCTION

Objective: To compare mortality rates among patients with end-stage renal disease (ESRD) receiving 1 of 4 dialysis modalities at a major dialysis provider.

Mortality of patients with ESRD on conventional, in-center hemodialysis (ICHD) remains high. We hypothesized that use of dialysis modalities with longer and/or more frequent sessions might increase patient survival.

METHODOLOGY

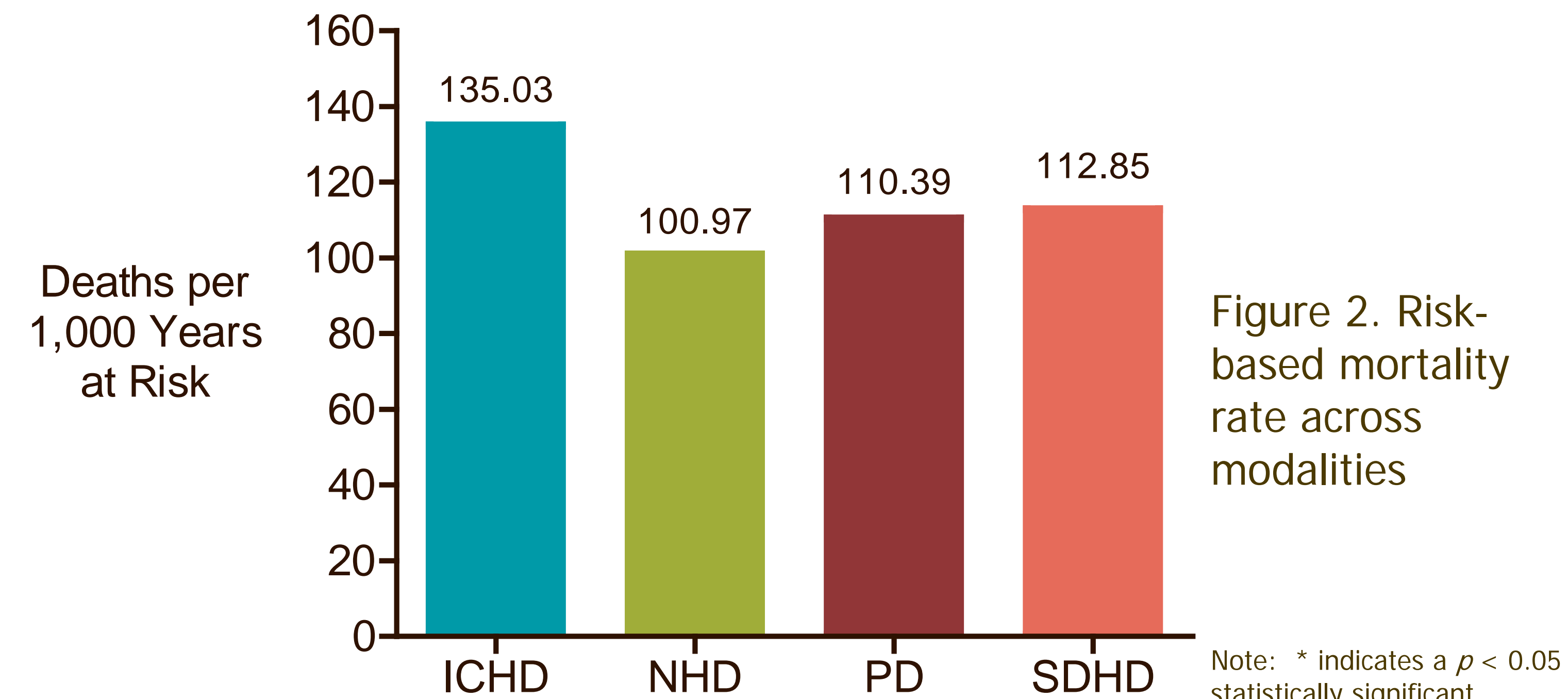
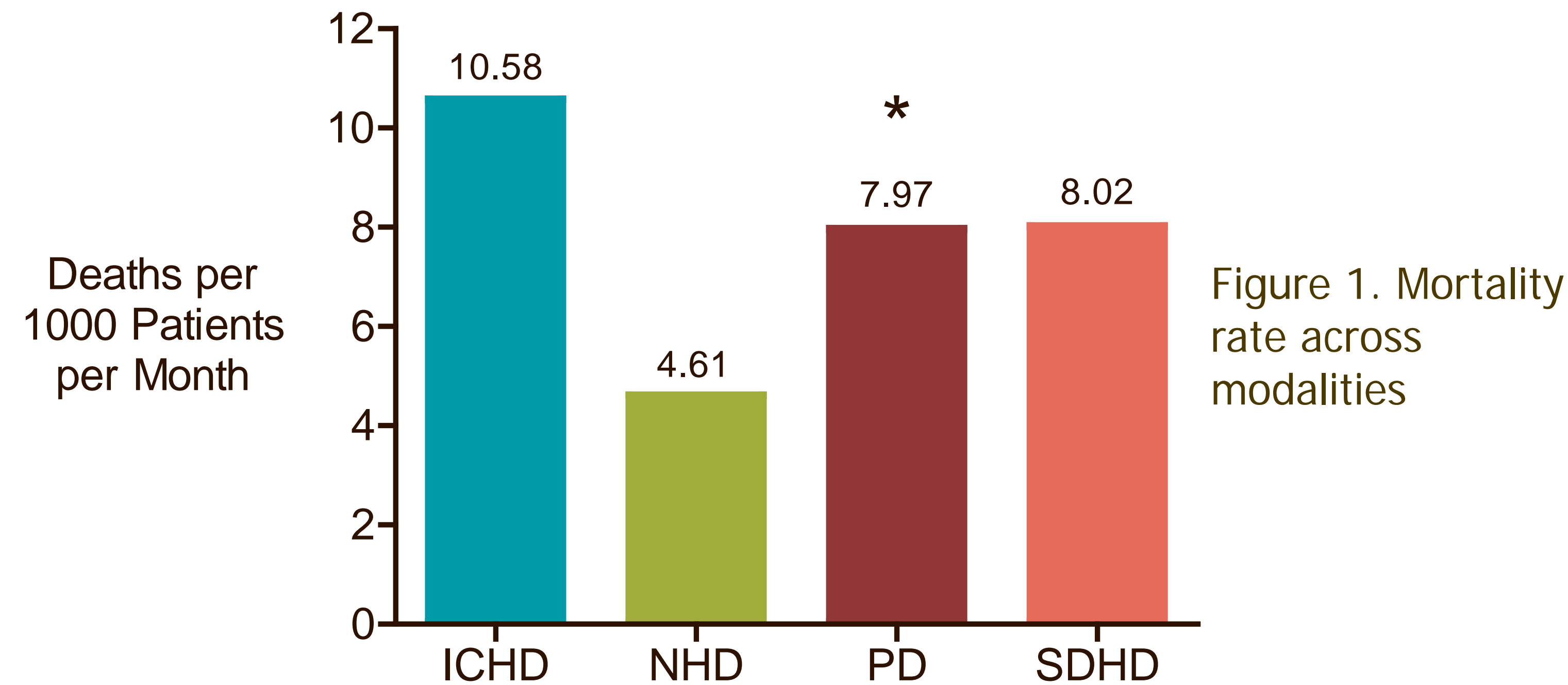
Retrospective, cross-sectional study comparing mortality and risk-based mortality rates in December 2008 across 4 treatment groups

- 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)

Mortality rates were adjusted for age, gender, race, vintage, and presence of diabetes; risk-based mortality rates were adjusted for patient age, gender, and race.

Statistical comparisons are between each alternate modality and ICHD.

RESULTS



Note: * indicates a $p < 0.05$ statistically significant difference between this modality and ICHD.

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.
- The death rate per 1000 patients (Figure 1) was significantly lower in the PD group compared to ICHD group. Significance for the NHD and SDHD groups was limited by small sample size.
- Mean deaths per patient-year-at-risk (Figure 2) were also lower in the NHD, PD, and SDHD groups compared to ICHD.
- 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.

We thank the patients who participated in this study and DaVita Clinical Research® (DCR) for support in preparing the analysis and this poster. DCR is committed to advancing the knowledge and practice of kidney care.



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