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Abstract (provisional):

Background – For chronic hemodialysis, the ideal permanent vascular access is the arteriovenous fistula (AVF). Temporary catheters should be reserved for acute dialysis needs. The AVF is associated with lower infection rates, better clinical results, and a higher quality of life and survival when compared to temporary catheters. In Brazil, the proportion of patients with temporary catheters for more than 3 months from the beginning of therapy is used as an evaluation of the quality of renal units. The aim of this study is to evaluate factors associated with the time between the beginning of hemodialysis with temporary catheters and the placement of the first arteriovenous fistula in Brazil.

Methods – This is an observational, prospective non-concurrent study using national administrative registries of all patients financed by the public health system who began renal replacement therapy (RRT) between 2000 and 2004 in Brazil. Incident patients were eligible who had hemodialysis for the first time. Patients were excluded who: had hemodialysis reportedly started after the date of death (inconsistent database); were younger than 18 years old; had HIV; had no record of the first dialysis unit; and were dialyzed in units with less
than twenty patients. To evaluate individual and renal unit factors associated with the event of interest, the frailty model was used (N=55,589).

Results – Among the 23,824 patients (42.9%) who underwent fistula placement in the period of the study, 18.2% maintained the temporary catheter for more than three months until the fistula creation. The analysis identified five statistically significant factors associated with longer time until first fistula: higher age (Hazard-risk – HR 0.99, 95% CI 0.99-1.00); having hypertension and cardiovascular diseases (HR 0.94, 95% CI 0.9-0.98) as the cause of chronic renal disease; residing in capitals cities (HR 0.92, 95% CI 0.9-0.95) and certain regions in Brazil – South (HR 0.83, 95% CI 0.8-0.87), Midwest (HR 0.88, 95% CI 0.83-0.94), Northeast (HR 0.91, 95% CI 0.88-0.94), or North (HR 0.88, 95% CI 0.83-0.94) and the type of renal unit (public or private).

Conclusion – Monitoring the provision of arteriovenous fistulas in renal units could improve the care given to patients with end stage renal disease.