Use of Dialysis Educators Beyond Nurses and Physicians and Outcomes in Patients With Kidney Failure

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This study examined whether patient education by nonmedical personnel (eg, social workers, dietitians) is associated with patient outcomes in a prospective cohort study of 1,005 incident dialysis patients treated at 79 United States clinics. Logistic and Poisson regression and Cox proportional hazards models were used to assess the relationship between clinic use of nonmedical educators and patient satisfaction and self-management, hospitalization, and survival, respectively. Patients treated at clinics reporting use of nonmedical educators (84%) were more likely to be satisfied with the amount of information on dialysis modalities (odds ratio [OR] =1.67, 95% confidence interval [CI] 1.08-2.58) and with the amount of information they received on dialysis (OR = 1.23, 95% CI 0.90-1.67; marginally significant) than those treated at clinics without nonmedical educators (16%). These patients were also less likely to be hospitalized (incidence rate ratio [IRR] = 0.91, 95% CI 0.80-1.03), but the association was of borderline statistical significance. Overall satisfaction, patient self-management, and mortality were not significantly associated with use of nonmedical educators. Use of nonmedical staff for patient education at dialysis centers has a limited but positive effect on patient satisfaction and hospitalization.

Index Words: Kidney failure; Nonmedical staff; Outcomes; Patient education; Patient satisfaction.

The importance of patient education in chronic disease is undisputed; however, health literacy in United States patients who have chronic disease has been reported to be low.[1,2] Patients with kidney failure, particularly, face the prospect of frequent necessary dialysis treatments and thus are expected to follow many complicated dietary, lifestyle, and medical guidelines. Better informed kidney failure patients are likely more motivated to follow to these guidelines and may have better outcomes. In fact, a Canadian study showed that a multidisciplinary predialysis education program intervention resulted in fewer urgent dialysis starts and fewer hospital days early in dialysis.[3] In another study, dialysis patients with diabetes who received specific diabetes education had better glycemic control and fewer complications than those who did not receive the same education.[4]

Dialysis patients receiving better education may also feel more empowered with respect to their own health and may be more involved in medical decision making. Golper[5] has shown that the choice of dialysis modality (ie, hemodialysis [HD], which is usually administered in a clinic, versus self-administered peritoneal dialysis [PD]) is strongly associated with the amount of multidisciplinary education that kidney failure patients receive. In fact, patients who do not choose self-care dialysis often cite a lack of sufficient explanation as one reason for their negative decision.[6] A

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National Kidney Foundation survey reported that patients want to be involved in medical decision processes that might affect their treatment or outcomes.[7]

Some or all patient education in dialysis clinics could be provided by nonmedical personnel, such as social workers and dietitians, rather than the physicians and nurses. These nonmedical personnel are present in the majority of United States' clinics because renal dialysis clinics are required to have social workers and dietitians as employees or contractual workers to receive Medicare (public health insurance) coverage for their services.[8] Education by nonmedical personnel may enhance the quality of patient care because nonmedical workers may be better trained in patient communication skills. This type of education could also be detrimental, if it were substituting for needed guidance from medical personnel. Given the financial burden of staffing nonmedical personnel, particularly under Medicare's system of fixed payments to dialysis facilities,[9] dialysis centers have a strong incentive to limit the billable time of nonmedical personnel and provide patient education using only personnel who provide clinical care and are thus more frequently present in the clinics. However, current evidence of the association between the contribution of nonmedical personnel to patient education and patient outcomes is not adequate to guide clinical decisions and payment policies. If nonmedical education were shown to improve patient outcomes, the use of non-medical personnel to fulfill education needs, especially in light of workforce shortages,[10] might be justified. Thus, we performed a national study of dialysis patients to examine whether patient education by nonmedical personnel is associated with improved patient outcomes, including patient satisfaction, patient self-management (defined as patient integration of dietary and medication recommendations), hospitalization, and survival.

Methods

Study Design

Data came from the End Stage Renal Disease Quality study, a national cohort study of dialysis patients cared for at 79 not-for-profit, freestanding outpatient dialysis centers in the United States. The cohort was assembled from the Choices for Healthy Outcomes in Caring for End-Stage Renal Disease study,[11] in which 1,041 incident dialysis patients were enrolled at 81 dialysis centers in 19 states between October 1995 and June 1998. The Choices for Healthy Outcome in Caring for End-Stage Renal Disease study was based on a collaborative relationship between Johns Hopkins University and Dialysis Clinics, Inc (DCI, Nashville, TN; n = 79), New Haven CAPD (New Haven, CT; n = 1), and St. Raphael's Hospital (New Haven, CT; n = 1). To be eligible, patients had to be more than 18 years of age and speak either English or Spanish. Median time from dialysis initiation to enrollment was 45 days, with 98% enrolling within 4 months of initial dialysis. Informed consent was obtained from each patient. Institutional review boards for the Johns Hopkins University School of Medicine and dialysis centers approved the study protocol.

Data Collection

We ascertained the independent variable for this study through a questionnaire administered to medical directors or head nurses at the 81 participating centers in October 1998. The questionnaire asked about each center's customary practice with regard to patient education. The item consisted of the question "Who provides the patient education on your staff (*Check all that apply*)" with possible responses including "Nephrologist," "Registered Nurse," "Social Worker," "Registered Dietitian," and "Other (*please specify*)." Seventy-nine (DCI, n = 77; St. Raphael's Hospital, n = 1; New Haven CAPD, n = 1) of 81 centers (98%) responded to this questionnaire item. Responses to this question (including "Other") were collapsed into 2 categories, dialysis center use of nonmedical educators (defined as social workers, registered dietitians, or other personnel with no nursing or medical training) versus no dialysis center use of nonmedical educators, and were linked by center to relevant patient-level data.

Outcome variables were taken from several sources. Both patient satisfaction ratings and quality of life measures were taken from baseline (median of 44 days on dialysis) written