Local Community Program Fights Diabetes Among Latinos and Others in San Diego

By Cathy Yarbrough

In the nation’s war against type 2 diabetes (T2D), the search for the “magic bullet” primarily targets drug development. However, one community-based program has been winning the battle—achieving patient outcomes that exceed the National Council for Quality Assurance’s benchmarks in T2D care—through a systematic, evidence-based, culturally sensitive approach to patient care that emphasizes self-empowerment.

The 14-year-old program, Project Dulce, has served 18,000 patients at San Diego’s community health clinics who are Latinos and members of other ethnic groups that are characterized by low income, inadequate insurance, and disproportionate rates of such T2D complications as kidney disease.

Because its clinical, behavioral, and economic outcomes have been so impressive, Project Dulce has been a model for similar community-based diabetes management programs in the United States. It now is being evaluated in selected T2D patients at Scripps Health, one of the top 10 health systems in the United States, according to Thomson Reuters. The patients in this pilot study have commercial medical insurance coverage but, like the Project Dulce model, many also have limited health literacy.

Many Hemodialysis Patients Have Limited Health Literacy

By Tracy Hampton

Many hemodialysis patients—especially those with lower education levels, African Americans, and veterans—do not understand the health information they need to make appropriate health decisions, according to findings of a recent report in Clinical Journal of the American Society of Nephrology (Green J, et al. Prevalence and demographic and clinical associations of health literacy in patients on maintenance hemodialysis).

“Health literacy may be particularly important to the care and outcomes of the more than 350,000 patients in the United States treated with chronic hemodialysis due to the complex nature of end stage renal disease management,” said lead author Jamie Green, MD, of the University of Pittsburgh. “Efforts to understand and improve health literacy have the potential to significantly improve the care and outcomes of this high risk population of patients.”

Health literacy among hemodialysis patients

Very few studies have examined health literacy—the ability to obtain, process, and understand health information so as to make appropriate health decisions—among hemodialysis patients. To investigate, Green and her colleagues tested 260 patients receiving long-term hemodialysis with a tool—the Rapid Estimate of Adult Literacy in Medicine (REALM)—that assesses one’s ability to read common medical words and lay terms for body parts and illnesses. The patients were enrolled in the Symptom Management Involving End-Stage Renal Disease (SMILE) study, a multicenter randomized clinical trial comparing symptom management strategies in patients receiving long-term hemodialysis, and they were determined to have limited health literacy if they had a REALM score of 60 or less. The investigators evaluated the independent associations of demographic and baseline clinical characteristics with limited health literacy.

Green and her team found that 16 percent of the patients receiving dialysis did not understand basic health information. Given this prevalence, the estimated number of patients receiving long-term hemodialysis in the United States affected
Limited Health Literacy

Continued from page 1

by this problem would be greater than 56,000. Of the 41 patients in this study with limited health literacy, 34 (83 percent) had REALM scores of 45–60 (i.e., seventh- or eighth-grade reading level), six (15 percent) had scores of 19–44 (i.e., fourth- to sixth-grade reading level), and one (2 percent) had a score less than 19 (i.e., less than fourth-grade reading level).

Limited health literacy was present in all subgroups of patients, but those with lower educational levels, African Americans, and veterans were at increased risk. Patients with less than a high school education had an increased risk of more than 12-fold of having limited health literacy, and African Americans and veterans had an increased risk of more than threefold. There were no associations between health literacy and age, gender, or markers of quality of care including hemoglobin level, serum phosphorus and intact parathyroid hormone level, or dialysis adequacy. Quality of life and overall symptom burden were similar in patients with and without limited health literacy.

“What is interesting is how common inadequate health literacy was in a population enrolled in a trial,” said Vanessa Grubbs, MD, who was not part of the research effort and is an assistant professor in the division of nephrology of the department of medicine at the University of California, San Francisco. She suggested that perhaps health literacy should be a standard measure in future clinical trials. “On the other hand, I think we have to move beyond documenting that inadequate health literacy is common to demonstrating effective ways to achieve good outcomes in spite of it,” she said.

The importance of health literacy

Limited health literacy is estimated to affect more than 90 million Americans and has been associated with adverse health outcomes and higher healthcare costs in patients with a variety of chronic illnesses. In addition, there is evidence that limited health literacy contributes to racial disparities in health outcomes.

Health literacy may be particularly important for patients receiving hemodialysis because they must attend treatment sessions several days a week, follow dietary and fluid restrictions, and adhere to complex medication regimens, all of which require them to understand and act on complicated health-related information. Research has indicated that patients receiving hemodialysis take an average of 19 medications each day, and one-quarter of them take more than 25 medications each day (Chiu YW, et al. Pill burden, adherence, hyperphosphatemia, and quality of life in maintenance dialysis patients. Clin J Am Soc Nephrol 2009; 4:1089–1096).


“Despite this growing body of evidence supporting an influential role of limited health literacy in patients with kidney disease, there have not been any studies to evaluate interventions to address health literacy, improve communication and translation of complex information, and determine its impact on clinical outcomes in kidney disease,” said Kerri Cavanaugh, MD, who is an assistant professor of medicine in the division of nephrology at Vanderbilt University Medical Center in Nashville, and whose research team uncovered these findings.

Green and her colleagues are currently following up the participants in their study to determine whether limited health literacy affects how patients adhere to dialysis treatment, whether they undergo kidney transplantation, and whether they die prematurely.

“We anticipate our findings will increase awareness of the importance of health literacy in patients with kidney disease, stimulate providers to consider literacy when communicating with patients, and lead to future studies to address limitations in health literacy,” she said.

Study coauthors include Maria Mor, PhD, Mary Ann Sevick, Paul Palevsky, MD, Michael Fine, MD, Steven Weisbord, MD (VA Pittsburgh Healthcare System and University of Pittsburgh); Anne Marie Shields (VA Pittsburgh Healthcare System); and Robert Arnold, MD (University of Pittsburgh).