Ratio of Hemodialysis (HD) Patients Per Allied Health Professional

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As Director of the Dietetics Practice Based Research Network (DPBRN) at the Academy, I am always looking for important research questions and for DPG partners who can help answer them. When I was in my Master’s degree program, I conducted a survey of renal dietitians (RDNs and international dietitians) exploring their ability to conduct diet assessment (1). Along the way, we discovered that 25% of RDNs reported having more than 150 patients per full time equivalent (FTE), the maximum ratio recommended by the KDOQI Nutrition Guidelines (1). As a result of that study, several prominent physicians wrote a commentary in the Journal of Renal Nutrition stating their belief that bone and mineral disease protocols were taking up too much RDN time and detracting from their ability to conduct diet assessments (2). This surprised me and my co-investigators, so we conducted a DPBRN survey that asked RDNs to rank their job responsibilities in terms of their importance and the amount of time consumed. In that study, half as many (11.9%) of RDNs were responsible for more than 150 patients/FTE (3). We discovered that plan of care related activities were considered both highly important and highly time consuming, and learned about new roles for RDNs related to pharmacy benefits management (3).

Simultaneously, I was working with the Clinical Nutrition Management DPG to conduct a study on staffing levels for inpatient RDNs. This study, conducted in 2014, was able to demonstrate how many patients RDNs were responsible for, but not whether more RDN time was related to better patient outcomes (4). Because dialysis RDNs are responsible for patients over long periods of time and since nutrition is such an important part of their outcomes, I began to wonder whether we might combine these two ideas and measure the impact of RDN staffing levels in dialysis facilities and the relationship to patient outcomes. I proposed this project to RPG and they agreed to provide funding so that the DPBRN could conduct the project. Working with an advisory group from RPG (Mary Kay Hensley, Cathy Goedddeke-Merrick, Jessie Pavlinac, Jerri Lynn Burrows, Lesley McPhatter), a research nephrologist who is a great advocate for nutrition and RDNs (Ashwini Sehgal, MD) and a statistician (Jeffrey Albert, PhD), we developed methodology that would determine whether fewer patients per RDN benefited dialysis patient outcomes. Because gathering outcomes on a per patient level would be very time-consuming, and so much data is already gathered, we decided to approach this question with data from the CMS Annual Facility Survey (AFS), on which dialysis facilities have to report the number of full and part time RDNs, social workers, nurses, and patient technicians each year. This data is matched with facility standardized outcomes as well as number of patients who receive care at the facility. From this information, we estimated a patient:FTE ratio for each type of staff member. Other researchers have estimated staffing ratios from the AFS data in the past to describe what facility characteristics are associated with variations in staffing levels (5).

The poster presented at NKF and republished here shows the trends for patient:staff ratios over the four years of data we had available. It appears that the ratios are decreasing, which should be good news, but we don’t know whether this is accompanied by an increase in responsibilities or other factors. In addition, the figure shows that the estimations of ratios may be too low, because of the non-specific way in which part and full time positions are reported on the AFS. The next step is to associate these ratios with patient outcomes. We are working on this analysis now, and hope to be able to present a portion of it as a poster at FNCE 2017.

In addition, we are using direct observation methodology to quantify the time renal RDNs spend with patients vs on indirect care activities because we think this may provide useful information, particularly if higher ratios appear to benefit patient outcomes. That might indicate that RDNs with higher ratios are spending more time in direct care vs. in other activities.

As I discussed with some RPG members who visited the poster at NKF (see photo), this question about renal staffing ratios was brought into the spotlight with the California legislature’s interest in mandating ratios for patients per nurse and social worker but not RDN. The data from this project should help make evidence-based staffing recommendations and legislation in the future, so thanks to RPG for providing funding for this project.

The poster will also be available at RPG’s website, www.renalnutrition.org.

References

www.renalnutrition.org