

Social Networks in the Dialysis Unit: Can They Influence Patient Behavior?

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Social network is a common term that we hear every day. It is defined in sociology as a social structure that exists and defines the way individuals or organizations are connected. Social networks have been shown to influence people's behavior pertaining to health, such as smoking (1).

In-center hemodialysis units act as a social network for patients on dialysis. In this issue of *Kidney 360*, Gillespie *et al.* (2) publish their study where they prospectively examine 49 patients as they form relationships in the social network of a new hemodialysis clinic over 3 years. They examine the factors that determine how the patients form relationships among themselves, and if these relationships change the patients' behaviors, as evidenced by examining the request for a living donor by the patients in the study. Any patient interactions in the form of verbal communication among themselves outside the clinic, in the waiting room, or during dialysis was observed by trained research staff, and defined as a relationship in the social network. Data were also collected by ten standardized Dialysis Patient Transplant Questionnaires during the 3-year study period.

The authors found that patients on the same day assignment and seated close to each other were more likely to form a relationship in the dialysis unit. They found that for 1 seat apart, the odds of participants forming a relationship decreased by an odds ratio of 0.74 ($P=0.002$). They also showed that Hispanic participants were 10.1 times more likely to form a link with another Hispanic participant than with a non-Hispanic participant. Interestingly, they found the patient's age, sex, religion, dialysis vintage, education, and transplant eligibility did not predict the network formation by the patient.

Another study published by the same authors reported differences in factors that predict network participation compared with forming a relationship among patients with ESKD starting hemodialysis in a new dialysis unit over 3 years. In their previous study, they showed that although ethnicity did not predict network participation, it was an important factor in forming relationships in the network (3). In contrast, females had less network participation, but sex did not affect the formation of relationships. Despite the difference, Gillespie *et al.* show that both network participation and forming relationships in a social network play an important role in patient decision making.

That patient opinion is of utmost importance to other patients is not foreign to anyone who has spent time in a dialysis unit. I can attest to this from my personal experience while rounding in my dialysis unit. For example, I was told by my charge nurse that 10 out of 30 of my patients on hemodialysis on the morning shift were gaining more weight than usual between dialysis sessions. During the investigation, we found that one patient had told others that drinking half cup of pickle juice at night decreases the cramps associated with dialysis. So began the outbreak of "drinking pickle juice" in our dialysis unit. This shows social networks and patient opinion play an important part in decision making of patients. However, these social networks can also influence patient behavior in a positive manner.

Gillespie *et al.* also studied the effects of the relationships among patients on the request for living donation from family and friends. They found the patients who requested a living donation were more social and more likely to form relationships, especially with patients who discussed transplantation. They did not find that the request for living donation was increased in patients due to social contagion, namely, the patients were not trying to imitate actions of others in the dialysis unit.

The effect of social networks and relationships is increasingly being recognized in health choices made by people, such as smoking cessation and alcohol use (1,4). In this study, Gillespie *et al.* suggest that seating a patient who does not have much knowledge about transplant among patients who have discussed transplantation could increase the chances of forming relationships among these patients, and thus possibly influence their behaviors toward transplant. Although this study is on the basis of a relatively small sample size and a single dialysis unit, there is no doubt that a better understanding of social networks in dialysis units could influence interventions changing patient behavior. We also need to reflect on the effect of diversity, equity, and the inclusion of ethical considerations when considering influences on patient behavior. Nevertheless, this is a very interesting and promising area of science and sociology that is coming in medicine and will likely lead to changes in how medicine is practiced in future.

In summary, Gillespie *et al.* present an innovative field of network medicine in a dialysis unit. They show

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that patients seated together in a dialysis unit are more likely to form relationships that can influence their health behavior and the request for living donor is one of them. Future studies will inform on the depth and breadth of these findings.

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Author Contributions

T. Singh conceptualized the study, wrote the original draft, and reviewed and edited the manuscript.

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See related article, “Does Whom Patients Sit Next to during Hemodialysis Affect Whether They Request a Living Donation?,” on pages 507–518.