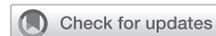


Kidney Nutrition in the Era of Social Media: Bridging the Gap of Nutrition Education and Kidney Health Literacy by Leveraging Resources of Social Networking



Introduction

SOCIAL MEDIA HAS allowed our individual messages to reach broader audiences and transformed how we communicate academically, professionally, and personally. To support these diverse applications, multiple social media platforms exist with rapid growth in use among many kidney nutrition partners, as reviewed by Langham et al.,¹ with a focus on health literacy in kidney care. Although social media has opened doors to communicate our professional expertise, it is important to remember the potential limitations and risks. The aim of this editorial is to illustrate the benefits, drawbacks, and potential best practices for social media use in the field of renal nutrition, referred to in this article as kidney nutrition.^{2,3}

Benefits of Social Media

Different groups preferentially use individual social media platforms.^{1,4} The field of Nephrology, including the *Journal of Renal Nutrition*, has led the utilization of Twitter for educational purposes, including sharing peer-reviewed publications, live-tweeting conferences, journal clubs, asking questions, and discussions of case studies.⁵ These uses have improved article dissemination and citations,⁶ increased the reach and equitable access to information shared at conferences,^{5,7} enhanced learning opportunities,⁸ and improved networking opportunities,⁵ which are particularly important for early career scientists. Although not the primary social media platform, nutrition professionals also use Twitter to communicate with colleagues (e.g., #RDChat). Overall, Twitter offers many benefits to kidney nutrition professionals, but use by patients and care partners is limited.⁹

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Many nutrition professionals, as well as patients and their care partners predominantly use Facebook and Instagram.^{10,11} Nutrition professionals may easily share information about healthy eating, practical recommendations for chronic kidney disease (CKD), and share links to professional websites, including blogs. Facebook is commonly used as a forum in a diverse set of public and private groups, while Instagram is primarily used to share infographics, recipes, and short informational videos. Notably, kidney nutrition private Facebook groups, some of which are almost 3,000 members, are venues for renal nutrition professionals to engage in discussions and ask questions regarding patient care, new products, and recent and classic renal nutrition literature. Similarly, several kidney patient groups and renal support networks have over 20,000 members. Nutrition professional societies have taken advantage of the extensive use of Facebook and other social media platforms to disseminate evidence-based nutrition information showing high and growing engagement.¹² Beyond Facebook and Instagram, LinkedIn is increasingly used for professional networking and Pinterest appears to be gaining popularity among dietitians.¹¹ These broad ways to utilize social media give practitioners options to find communication methods tailored to their skill and comfort level.

Drawbacks, Risks, and Limitations of Social Media

Social media use confers a myriad of benefits, but also has drawbacks including serious risks and limitations, some of which were noted during the COVID-19 pandemic era. Due to the novelty of COVID-19, it was important to provide rapid communication regarding treatments and best practices. Different social media platforms helped cover this need, as major health societies and organizations, such as the World Health Organization, the United States Centers for Disease Control and Prevention, as well as experts in the field, were able to reach practitioners and the general population. However, the ease of sharing information was also met with the ease of sharing incorrect or biased information, also known as misinformation. This was in part because some of the information or data was often communicated without proper due process, including no peer review, which may have led to the rise of misinformation and disinformation, the latter

A Roadmap for Best Practices in Social Media for Kidney Nutrition Professionals

1. Follow the code of conduct of your professional society (eg, Academy of Nutrition and Dietetics/Commission of Dietetic Registration; American Medical Association).
2. Share evidence-based and patient-centered information without being misguided by personal or professional conflicts of interest.
3. Be comprehensive and unbiased with the review of available evidence and put individual studies into the context of the larger literature.
4. Be transparent about personal or professional conflicts of interest.
5. Engage in respectful and civil discussions with kidney nutrition and other professionals, patients, and their care partners.
6. When talking and sharing about patient care, be aware of laws and regulations (eg, Health Insurance Portability and Accountability Act of 1996 [HIPAA] in the United States) and make sure to obtain consent when appropriate.
7. Mistakes happen; if information was shared incorrectly or was misleading, be sure to amend it.

Figure 1. A roadmap for best practices in social media for kidney nutrition professionals.

deliberately intended to mislead.¹³ Careless social media postings, including unprofessional language or breaking the privacy of a person and entities, are serious violations than can affect relationships, reputation, and careers. Therefore, it is important that the kidney nutrition community avoids sharing information that is not evidence-based or biased by personal and professional conflicts of interest. Professional societies provide useful guidance on this point (Fig. 1).^{14,15}

Summarizing the Use of Social Media for Kidney Nutrition

Widespread interest exists among nutrition professionals, patients, and their care partners for information about kidney nutrition and lifestyle. To meet this desire for information, kidney nutrition partners are turning to social media. Whether or not we as professionals are making our voices heard, members of the kidney nutrition community will find information on social media. As kidney nutrition professionals, we have expertise and experience we should share to help fill this space and ensure the information that kidney nutrition partners are finding is evidence-based. We encourage readers to responsibly use their social media platforms for kidney nutrition, provide their handle for Twitter, Facebook, LinkedIn, and so on, to promote the evidence, and avoid misinformation.

Elsewhere in This Issue of the *Journal of Renal Nutrition*

In this last issue for 2022, the *Journal* brings readers an editorial on health literacy,¹ 3 review articles (one of which is a systematic review with meta-analysis),¹⁶⁻¹⁸ 11 reports on original research,¹⁹⁻³⁰ a case study,³¹ a research brief,³² and a letter.³³ Langham et al.¹ highlight the importance of

assessing kidney health literacy (KHL) of patients with kidney disease. The article was highlighted for World Kidney Day 2022 and focuses on the need to promote KHL for people with CKD, their care partners, and patient advocacy groups but also governments, policy makers, and healthcare providers. As our lead discussion in this issue of the *Journal*, promotion of kidney disease information is critical for improving care for patients with CKD and developing tools for preventing kidney disease. Relatedly, in adults without a diagnosis of CKD, Ould Setti et al.²² provide a fascinating examination of the synergy between Vitamin D deficiency and renal hyperfiltration with the incidence of mortality in middle-aged men. The *Journal* also shares findings on dietary patterns and dietary quality that impact CKD and hemodialysis in China (Mao et al.)²³ and Malaysia (Sualeheen et al.),²⁶ which have implications for all patients with CKD. Diet quality is associated with nutrition status (Sualeheen et al.)²⁶ and a higher plant-based, lower animal foods diet was associated with lower serum uric acid and creatinine levels in adults without CKD.²³ This finding corresponds to the review by Babich et al.,¹⁶ who question the practice, adopted in recent decades, of a universal potassium restriction for all patients with kidney disease. They discuss the guidelines promoting potassium restriction, the paucity of data to support the restriction of this nutrient, and the foods known to contain moderate or higher levels of potassium. They review the few articles that test the association of dietary potassium and hyperkalemia and focus on the recommendation of a higher plant-based diet in kidney disease care.

KHL could also be beneficial in improving adherence to diet and fluid restrictions. Vijay and Kaur Kang¹⁸ determined that nonadherence is common in patients requiring hemodialysis. The studies in their meta-analysis

demonstrated that the worldwide prevalence of nonadherence to diet was 60.2% and fluid restrictions was 60.6% in patients with kidney disease receiving maintenance hemodialysis. Improved knowledge of the diet by patients and by healthcare team members may reduce these high values and a less restrictive diet may contribute to improved adherence. KHL should also include guidance on the benefits of physical activity for patients with kidney disease. Two of the 4 factors inhibiting physical activity in a recent study were related to poor KHL (fear of complications and inadequate support from care partners).³⁴ In a study by Xiong et al.,²⁴ patients with CKD 1–5 without dialysis, demonstrated that walking in range of 7,000–12,000 steps per day was associated with improved health-related quality of life.

Using the combination of hand-grip strength (HGS) and low appendicular skeletal muscle index, sarcopenia was identified by Yasar et al.²⁰ in patients with nondialysis CKD, receiving hemodialysis, peritoneal dialysis, or kidney transplant. They demonstrated that serum myostatin concentration was significantly, albeit mildly, associated with sarcopenia and that kidney transplant recipients had the lowest proportion of sarcopenia. Xavier et al.²⁷ examined the relationship of HGS cut points in hemodialysis patients with the presence of malnutrition (assessed by Malnutrition Inflammation Score [MIS]). HGS below the threshold for sarcopenia (27 kg for males, 16 kg for females) was significantly associated with worse MIS, being male, older, and having diabetes. Similarly, HGS below the threshold for mortality (22 kg for males, 7 kg for females) was significantly associated with worse MIS, being older, and having diabetes, but was worse for women than men. Nutrition status assessed by the Geriatric Nutrition Risk Index was predictive of all-cause mortality and mortality after hospitalization for infection in a study by Machiba et al.²⁹ of patients requiring maintenance hemodialysis. Nutrition status was associated with osteopenia in a study by Wang et al.²⁸ These investigators examined the relationship among serum albumin, fat mass, and fat-to-muscle mass with bone mineral density, finding that osteopenia was associated with lower serum albumin, higher fat mass, and a higher ratio of fat-to-muscle mass in a group of patients receiving maintenance hemodialysis.

Two reports of biotics are included in this issue of the *Journal of Renal Nutrition*. Alvarenga et al.²¹ provide a report of a randomized placebo-controlled crossover study in patients with nondialysis CKD who received 500 mg of trans-resveratrol supplementation or placebo. No impact was observed on the concentration of uremic toxin levels using this dose of resveratrol. In a feasibility study, performed to test both the study design and the outcome of gastrointestinal symptoms, Chan et al.²⁵ performed a randomized, double-blind, placebo-controlled study of prebiotics (green banana-resistant starch) or control (waxy maize) in kidney transplant recipients. They

found that participants who were administered the prebiotic had significantly fewer gastrointestinal symptoms.

The research brief by Friedman et al.³² provides insight on the ability of medications for treating diabetic kidney disease on outcomes after 2 years of therapy compared to having metabolic surgery (Roux-en-Y gastric bypass). The medications included renin-angiotensin-aldosterone system blockers, sodium-glucose co-transporter 2 inhibitors, and glucagon-like peptide-1 receptor agonists; each known to reduce albuminuria in diabetic kidney disease. The study was retrospective, finding that metabolic surgery resulted in significantly improved regression of microalbuminuria and more weight loss than observed in the medication managed group. Even more medications will soon be marketed for treatment or prevention of CKD and for treatment of obesity. As recommended by Friedman et al., prospective studies need to be performed in this area to delineate the risks and benefits of either (or both) approaches. In a study of children with obesity and prediabetes, Di Sessa et al.¹⁹ correlated 2 important findings: the presence of prediabetes is associated with lower estimated glomerular filtration rate in obese children and that the association is stronger in children with the *PNPLA3* 148M allele.

Elsewhere in this issue, Takahashi¹⁷ reports on a review of the function of zinc and copper on erythropoiesis in hemodialysis patients and the importance of monitoring blood concentration of these minerals during supplementation to prevent copper deficiency. Benyamini et al.³⁰ report that nutrition status deterioration during the first 3 months of hemodialysis is associated with death in the first 3 years of treatment. Budd and Maffrici³¹ report on a case of high-output ileostomy in a patient with CKD and cancer. In this case, the renal dietitian was able to guide the patient to safely manage her intestinal losses and continue cancer treatment—another case of KHL where someone recognized that this patient would benefit from a renal dietitian consult.

The content of this issue of the *Journal of Renal Nutrition* is varied and connected. We emphasize the importance of KHL, the use of quality research as evidence, and the importance of remaining current in the literature to provide patients with options for optimizing their care. Social media will continue to be important in disseminating information, yet kidney nutrition professionals need to carry the torch for accuracy in information.

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