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Press Release

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TAILORED MOBILE HEALTH TECHNOLOGIES MAY HELP PATIENTS TAKE THEIR MEDICATIONS APPROPRIATELY

Study reports few errors when applied to patients with chronic kidney disease

Highlight

- There was only a 5% error rate when patients with chronic kidney disease used mobile health technologies designed to help them use medications appropriately.

Washington, DC (July 28, 2015) — It can be difficult for patients with complex chronic diseases to take medications appropriately, but a study appearing in an upcoming issue of the *Clinical Journal of the American Society of Nephrology* (CJASN) finds that tailored mobile health technologies can help ensure the safety of their care.

To determine whether user-friendly mobile technologies might help keep patients with chronic kidney disease (CKD) on track with their medications, Clarissa Jonas Diamantidis, MD, MHS, of the Duke University School of Medicine, and her colleagues at the University of Maryland School of Medicine evaluated the home-based usability of a mobile health medication inquiry system (MIS) that they designed as a patient-centered medication safeguard. The MIS application responds to study medications with 3 potential responses: “not safe in chronic kidney disease”, “use with caution, speak with your healthcare provider”, and “safe in chronic kidney disease.”

The investigators randomized 20 patients with CKD to a text-based MIS platform or a personal digital assistant (PDA)-based MIS platform. Participants were then mailed 3 randomly selected sample prescription pill bottles and asked to input the medication into the MIS and record the system responses to determine their appropriateness in CKD.

“General usability of the MIS application was high, regardless of platform type, with only a 5% error rate,” said Dr. Diamantidis. Two errors occurred in the text-based group and 1 in the PDA-based group. “The majority of participants found the application easy to use and helpful in avoiding the use of harmful medications, and they would recommend the application to others.”

Despite general proficiency with the mobile health MIS application, the study uncovered variable electronic health literacy among patients. When participants were administered the eHealth Literacy Scale, which evaluates individuals' perceived abilities to effectively apply electronic health information to health problems, the majority of participants felt the Internet was a useful source of health information, but only about half felt they knew where to find helpful health resources on the Internet. Even fewer reported being able to tell high quality from low quality Internet-based health information.

In an accompanying editorial, Bryan Becker, MD, of the University of Chicago, noted that harnessing mobile technology to better treat CKD is logical. "What Diamantidis and colleagues have done is extend that treatment platform beyond traditional care settings into the home," he wrote. "They have used a tool to create a small but very important first step in achieving patient engagement and patient satisfaction in self-care."

Study co-authors include Jennifer Ginsberg, MS, Marni Yoffe, MA, Lisa Lucas, Divya Prakash, MS, Saurabh Aggarwal, PhD, Wanda Fink, MS, RN, Stefan Becker, MD, and Jeffrey Fink, MD, MS.

Disclosures: Dr. Fink has received prior research funding from Amgen, Inc. and honoraria from Sandoz, Inc. and Amgen, Inc.

The article, entitled "Remote Usability Testing and Satisfaction with a Mobile Health Medication Inquiry System in CKD," will appear online at http://cjasn.asnjournals.org/ on July 28, 2015.

The editorial, entitled "2015Medication Safety + Mobile Health = Patient Engagement in Chronic Kidney Disease," will appear online at http://cjasn.asnjournals.org/ on July 28, 2015.

Founded in 1966, and with more than 15,000 members, the American Society of Nephrology (ASN) leads the fight against kidney disease by educating health professionals, sharing new knowledge, advancing research, and advocating the highest quality care for patients.

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