



Patient Centered Outcomes & Uptake of Health System Portal Use in Chronic Kidney Disease

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Background

- Web-based resources for chronic kidney disease (CKD) care and education are increasingly emphasized.

Objectives

- Examined if patient use of a specific web-based resource (patient portal) was associated with patient CKD knowledge, perceived CKD-specific stress, and patient self-ratings of health.

Methods

- A cross sectional survey was administered to adult patients with non-dialysis CKD during nephrology follow up visits (April 2015-March 2018).
- Logistic regression was used to examine the association between patient electronic health record portal use (outcome) and demographics, eGFR, patient CKD knowledge, perceived CKD-stress, and patient self-ratings of health assessed using validated questionnaires.

Results

Characteristics of Cohort:

- 245 participants, the mean age was 60 (SD ± 17) years. Eighty percent were white, 51% were women, 94% had >8th grade formal education, and 40% had < \$50,000 income.
- Summary scores for patient self reported health status was 1.74 (between very good and good, SD 0.95), accuracy score for CKD knowledge was 0.68 (scale of 0-100%, SD 0.15), and for CKD disease specific stress was 1.1 (0 representing no concern and 3 high anxiety, SD 0.67).

Health Portal Use:

- Sixty-seven percent used the portal, with 99% using it to check lab results, 82% to send messages to providers, 62% to review or renew prescriptions, 84% to make or change clinic appointments, 81% to view their medical history, and 72% to check information including patient educational resources.

| Variable | OR Unadjusted (95% CI) | OR Adjusted (95% CI) |
|---|------------------------|----------------------|
| Age | 1.0 (0.98-1.01) | 0.98 (0.95-1.00) |
| Men (compared to women) | 0.99 (0.57-1.72) | 1.37 (0.69-2.74) |
| Race (compared to white) | | |
| African American | 0.39 (0.18-0.83) | 0.69 (0.28-1.73) |
| Other race | 0.88 (0.27-3.36) | 3.90 (0.69-38.65) |
| < HS grad (compared to ≥ HS grad) | 0.06 (0.00-0.34) | 0.15 (0.00-1.11) |
| Income (compared to > \$50,000 annual income) | | |
| < \$25,000 | 0.28 (0.13-0.61) | 0.32 (0.12-0.78) |
| \$25,000-50,000 | 0.25 (0.12-0.52) | 0.26 (0.11-0.58) |
| CKD stage (compared to stage 3) | | |
| Stages 1-2 | 0.74 (0.30-1.91) | 0.61 (0.17-2.14) |
| Stage 4 | 0.58 (0.30-1.10) | 0.65 (0.30-1.41) |
| Stage 5 | 0.50 (0.20-1.29) | 0.79 (0.23-2.78) |
| Health status | 1.33 (0.99-1.82) | 1.07 (0.74-1.53) |
| CKD knowledge | 1.02 (1.00-1.04) | 1.01 (0.98-1.04) |
| CKD stress | 0.62 (0.40-0.94) | 0.54 (0.31-0.93) |

Table 2: Logistic regression model adjusted for age, sex, race, education, income, CKD stage, health status, CKD knowledge, and CKD stress

Conclusion

- Patient health portals are less likely to be used by patients of lower income and those with more kidney disease specific stress.

Limitations

- Cross sectional study limiting interpretation of causality.
- Single-center study at outpatient ambulatory nephrology clinics within one academic medical center, limiting generalizability.

Future Directions

- With an increasing emphasis on the use of health portals to improve patient engagement, interventions are needed to address disparities between portal users and non-users and ensure that promotion of patient portals does not widen gaps in support for those patients who may need it most.

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