



Health Literacy and Chronic Kidney Disease Knowledge

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Study Purpose

To examine the relationship between health literacy (HL) and knowledge of CKD self-management behaviors.

Background

- ❖ Chronic Kidney Disease (CKD) is a growing public health problem with significant health care costs.
- ❖ CKD self management behaviors are complex and may prove challenging for patients with low health literacy. These include complex tasks such as dietary modifications, follow-up laboratory tests, multiple medications and regular physician appointments
- ❖ Poor knowledge of self management can lead to poor outcomes.

Patients

- ❖ Patient population: Adults with CKD stages 1-4 followed in a general nephrology clinic were identified by chart review and administration of screening instrument.
- ❖ Exclusion criteria: Cognitive impairment (determined via validated six item screener), Impaired vision (determined via screening instrument), Current acute kidney injury

Methods

Eligible patients administered the following study instruments after obtaining informed consent.

- Newest Vital Sign to measure health literacy
- 11 item low literacy instrument tailored to address knowledge of CKD self-management behaviors.

Results

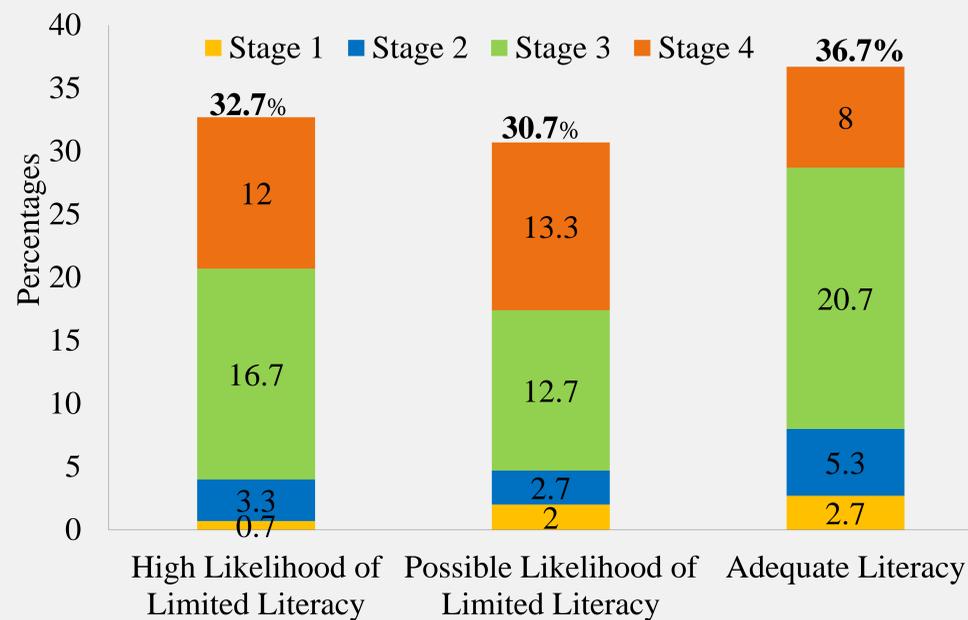
- ❖ One hundred and fifty patients completed the study

Results (cont.)

- ❖ Demographics:
 - 53% female
 - 40% white, 41% Hispanic
 - 75% were between 51-90 of age
 - 46% had annual household incomes <\$15,000
 - 85% had a high school or higher education
 - 97% had private or public insurance
 - 77% had hypertension; 42% had diabetes
 - 51% self reported kidney disease for 1-5 years

15.4% of the participants indicated that they knew very little or nothing about kidney health.

Figure 1: Distribution of CKD stage by Literacy Level



- ❖ There were no significant differences between the individual items comprising the knowledge scale and health literacy level, however overall self-reported knowledge differed significantly by health literacy ($p=0.05$; Cramer's $V=0.23$, $p=0.05$). Those with high likelihood of limited literacy reported that they "knew a lot" about their kidney health.

- ❖ Knowledge of self management behaviors were 13 points higher for patients in CKD stages 3 and 4 than those in stages 1 and 2 ($p<0.01$).

Table 1: Knowledge Instrument by Item

Knowledge Instrument	Correct answer	Percent correct	Significance with HL	Significance with CKD stage
To help my kidneys, I need to:				
Control my blood pressure.	True	94.0	0.153	$p<0.001$
Take my blood pressure medicine(s) like my doctor tells me to.	True	90.6	0.140	$p<0.001$
Have my urine ("pee") tested at least once a year.	True	94.0	0.46	0.73
Eat more salt.	False	96.0	0.51	0.051
Get my blood checked every few months.	True	91.9	0.42	$p<0.001$
Keep a healthy body weight.	True	96.6	0.60	0.125
Not take some types of over-the-counter medicines (Motrin, Aleve, Ibuprofen, Naproxen).	True	94.0	0.52	0.44
Do you have diabetes? If YES, then answer the following: (N=63)				
Keep track of my blood sugar each day.	True	87.3	0.54	0.26
Eat less sugar.	True	96.7	0.48	0.71
Take my diabetes medicine(s) like my doctor tells me to.	True	93.4	0.76	0.93
Overall Knowledge: How much do you know about your kidney health?			0.05	0.401

Conclusions

- ❖ Knowledge of self management behaviors in patients with CKD were affected by CKD stage more than by health literacy level.
- ❖ Patients with low literacy reported that they "know a lot" about their kidney health. Whether this is a lack of insight or masking of self management behaviors, it may represent an opportunity to direct educational efforts to those with lower health literacy.